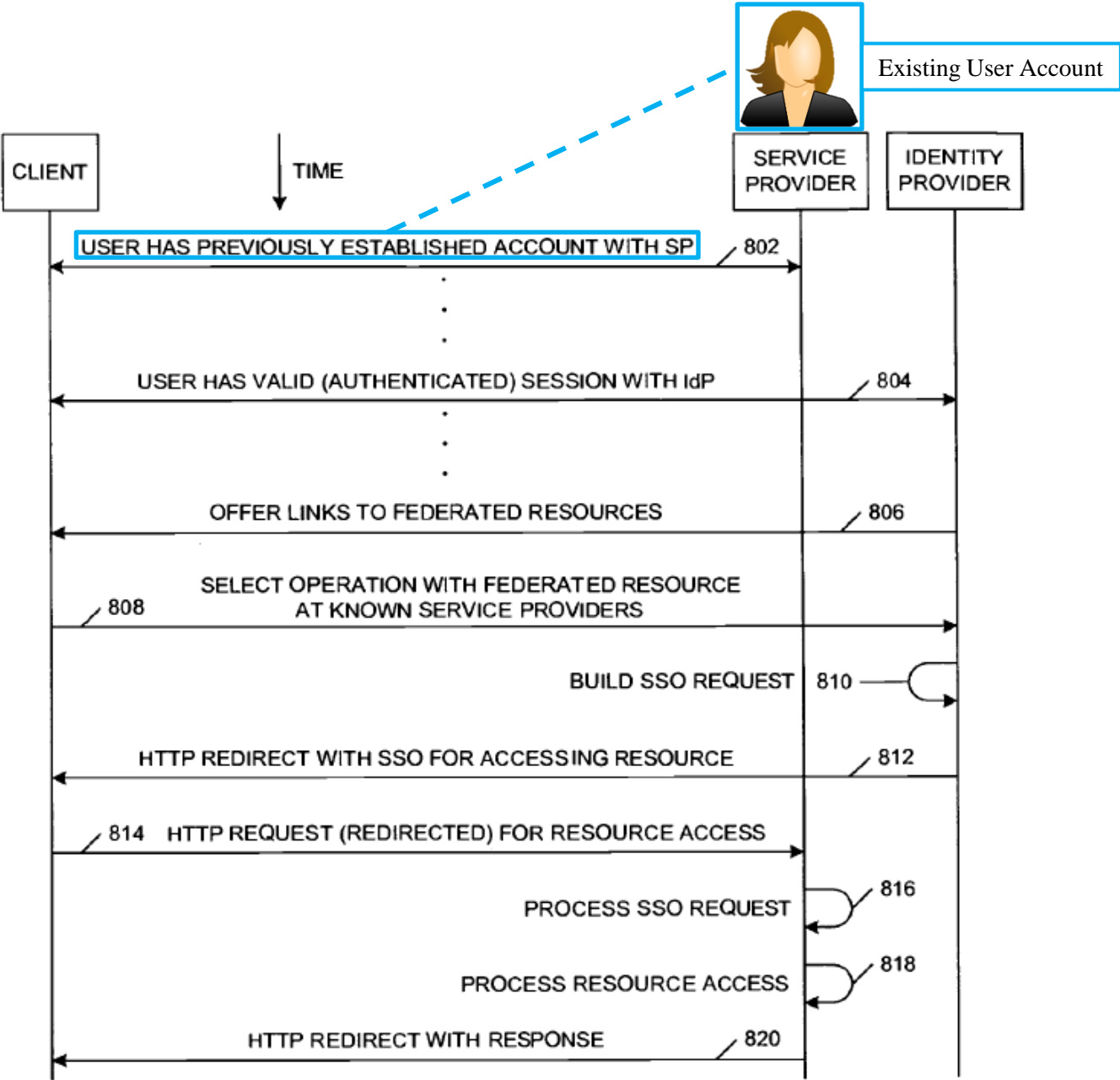


EXHIBIT A

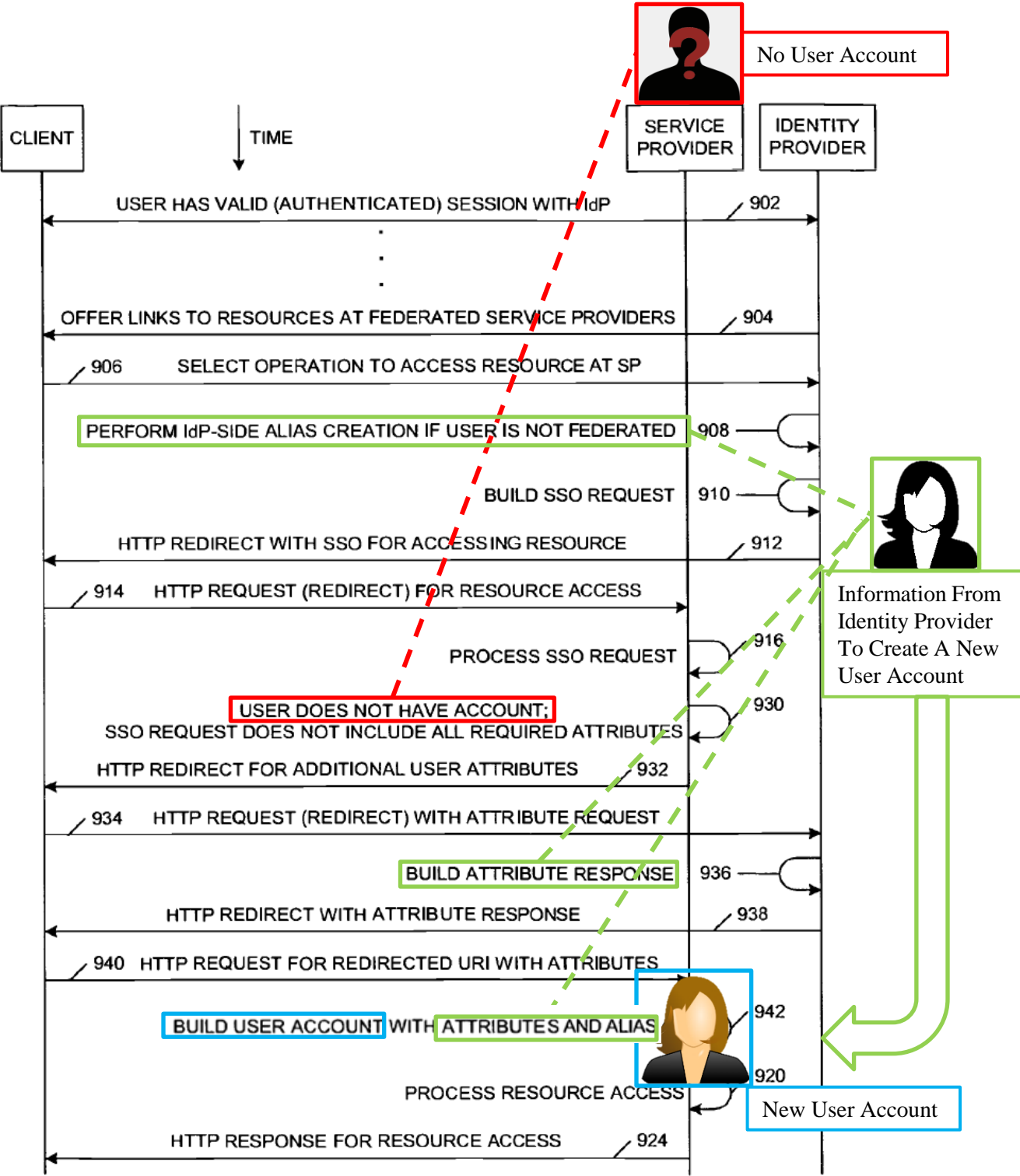
Prior Art Single-Sign-On Using Existing User Account At The Service Provider
(Outlined In Blue)



**TYPICAL SINGLE-SIGN-ON OPERATION
(INITIATED BY IDENTITY PROVIDER – USER PREVIOUSLY PROVISIONED AT SP)**

FIG. 8
(PRIOR ART)

EXHIBIT B



PUSH-TYPE SINGLE-SIGN-ON OPERATION WITH RUNTIME USER ACCOUNT CREATION AT SP
(ADDITIONAL PULLING OF USER ATTRIBUTES BY SP FROM IDP)

FIG. 9B

EXHIBIT C

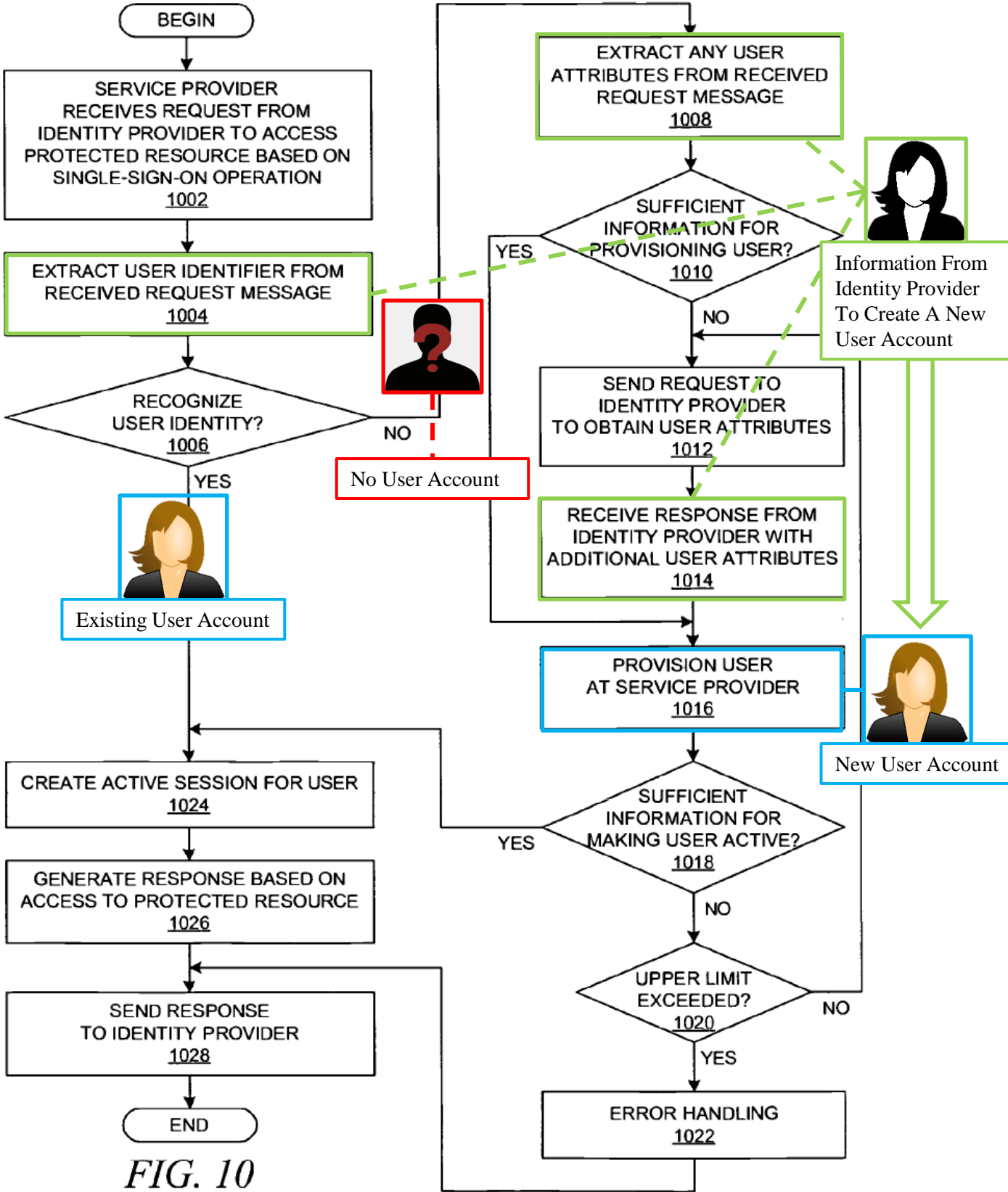


EXHIBIT D

Exhibit D (Adapted From '601 Patent, Fig. 1)

Prior Art Webpage With Link Text (Highlighted In Blue)

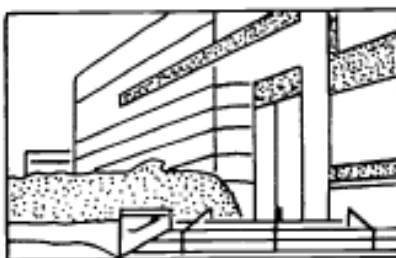
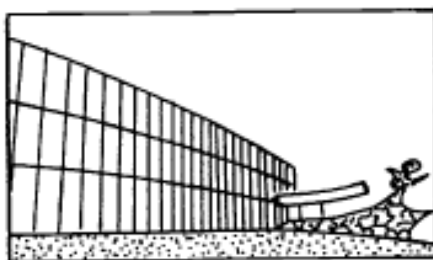
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Research



IBM T.J. Watson Research Center



T.J. Watson Research Center: Yorktown (left) and Hawthorne.

- [Welcome!](#)
- [Local Education Outreach](#)
- [Visitor info and local site directions](#)
- [Local hotels](#)
- [IBM home page -- IBM Research home page](#)



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FIG. 1
PRIOR ART

EXHIBIT E

HTML Code Underlying Prior Art Webpage With Links (Highlighted In Yellow) And Link Text (Highlighted In Blue)

```
<HTML><HEAD>
<TITLE>IBM T. J. Watson Research Center home page</TITLE>
<meta name="owner" content="calyson@watson.ibm.com">
<meta name="review" content="19960202">
</HEAD>
<BODY>
<IMG SRC="/watson/mast.gif" alt="Research" >
<p>
<h1>IBM T.J. Watson Research Center</h1>
<p>
<IMG SRC="/watson/night.gif" > <IMG SRC="/watson/haw2.gif" >
<br>
<i>T.J. Watson Research Center: Yorktown (left) and Hawthorne.</i>
<p>
<ul>
<IMG align="middle" SRC="/watson/bullet.gif" > <A HREF="/watwel.html" >
Welcome! </a>
<br>
<IMG align="middle" SRC="/watson/bullet.gif" > <A HREF="/leo" >Local Education Outreach
</a>
<br>
<IMG align="middle" SRC="/watson/bullet.gif" > <A HREF="/menu.html" > Visitor info and local
site directions </a>
<br>
<IMG align="middle" SRC="/watson/bullet.gif" > <A HREF="/lodging.html" > Local hotels</a>
<br>
<IMG align="middle" SRC="/watson/bullet.gif" > <A href="http://www.ibm.com"> IBM home
page</a> -- <A href="http://www.research.ibm.com"> IBM Research home page</a>
<br>
<ul>
<p>
<hr>
<A HREF="/watson/mail.html" ><IMG align="middle
SRC="/research/images/mail.gif" ></a> <b>Click on icon to send your comments.<Th>
<p>
Or, contact <i>webmaster@watson.ibm.com</i>
<p>
<hr>
<Address><homepage@watson.ibm.com></address>
<b>
[
<A href="http://www.ibm.com/">IBM home page</a>|
<A href="http://www.ibm.com/Orders/">Order</a>|
<A href="http://www.austin.ibm.com/search/">Search</a>|
<A href="http://www.ibm.com/Assist/">Contact IBM</a>|
<A href="http://www.ibm.com/Finding/">Help</a>|
<A href="http://www.ibm.com/copyright.html">(C)</a>|
<A href="http://www.ibm.com/trademarks.html">(TM)</a>
]
</b>
</BODY>
</HTML>
```

EXHIBIT F

Links Transformed According To An HTML Embodiment

With CGI (Highlighted In Purple) And Embedded State Information (Highlighted In Green)

```

<HTML><HEAD>
<TITLE>IBM T. J. Watson Research Center home page</TITLE>
<meta name="owner" content="calyson@watson.ibm.com">
<meta name="review" content="19960202">
</HEAD>
<BODY>
<IMG SRC="/watson/mast.gif" alt="Research" >
<p>
<h1>IBM T.J. Watson Research Center</h1>
<p>
<IMG SRC="/watson/night.gif" > <IMG SRC="/watson/haw2.gif" >
<br>
<i>T.J. Watson Research Center: Yorktown (left) and Hawthorne.</i>
<p>
<ul>
<IMG align=middle SRC="/watson/bullet.gif" ><A HREF="http://www.watson.ibm.com/cgi-
bin/convert2?url=/www.watson.ibm.com/watwel.html&x=32& y=45" >
Welcome! </a>
<br>
<IMG align=middle SRC="/watson/bullet.gif" ><A HREF="http://www.watson.ibm.com/cgi-
bin/convert2?url=/www.watson.ibm.com/leo&x=32& y=45" >Local Education Outreach
</a>
<br>
<IMG align=middle SRC="/watson/bullet.gif" ><A HREF="http://www.watson.ibm.com/cgi-bin/convert2?url=
/www.watson.ibm.com/menu.html&x=32& y=45" > Visitor info and local
site directions </a>
<br>
<IMG align=middle SRC="/watson/bullet.gif" ><A HREF="http://www.watson.ibm.com/cgi-bin/convert2?url=
/www.watson.ibm.com/lodging.html&x=32& y=45" > Local hotels</a>
<br>
<IMG align=middle SRC="/watson/bullet.gif" ><A href="http://www.watson.ibm.com/cgi-bin/convert2?url=
/www.ibm.com&x=32& y=45" > IBM home
page</a> -- <A href="http://www.watson.ibm.com/cgi-bin/convert2?url=/www.research.ibm.com&x=32& y=45" > IBM Research
home page</a>
<br>
<ul>
<p>
<hr>
<A HREF="/watson/mail.html" ><IMG align=middle
SRC="/research/images/mail.gif" ><b>Click on icon to send your comments.</Th>
<p>
Or, contact <i>webmaster@watson.ibm.com</i>
<p>
<hr>
<Address><homepage@watson.ibm.com></address>
<b>
[
<A href="http://www.watson.ibm.com/cgi-bin/convert2?url=/www.ibm.com&x=32& y=45" >IBM home page</a>|
<A href="http://www.watson.ibm.com/cgi-bin/convert2?url=/www.ibm.com/Orders&x=32& y=45" >Order</a>|
<A href="http://www.watson.ibm.com/cgi-bin/convert2?url=/www.austin.ibm.com/search&x=32& y=45" >Search</a>|
<A href="http://www.watson.ibm.com/cgi-bin/convert2?url=/www.ibm.com/Assist&x=32& y=45" >Contact IBM</a>|
<A href="http://www.watson.ibm.com/cgi-bin/convert2?url=/www.ibm.com/Finding&x=32& y=45" >Help</a>|
<A href="http://www.watson.ibm.com/cgi-bin/convert2?url=/www.ibm.com/copyright.html&x=32& y=45" >(C)</a>|
<A href="http://www.watson.ibm.com/cgi-bin/convert2?url=/www.ibm.com/trademarks.html&x=32& y=45" >(TM)</a>
]
</b>
</BODY>
</HTML>

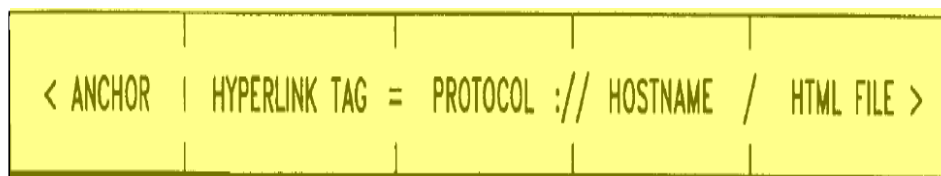
```

EXHIBIT G

Links Transformed According To An HTML Embodiment

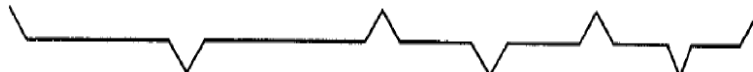
With CGI (Highlighted In Purple) And Embedded State Information (Highlighted In Green)

FIG. 9a



915

FIG. 9a'



920

915

930

EXHIBIT H

Exhibit H

(Adapted From '969 Patent, Fig. 2, 1:40-45, 2:19-38, '849 Patent Fig. 2, 1:37-42, 2:20-44)

Prior Art Interactive Applications Using "Dumb Terminals"

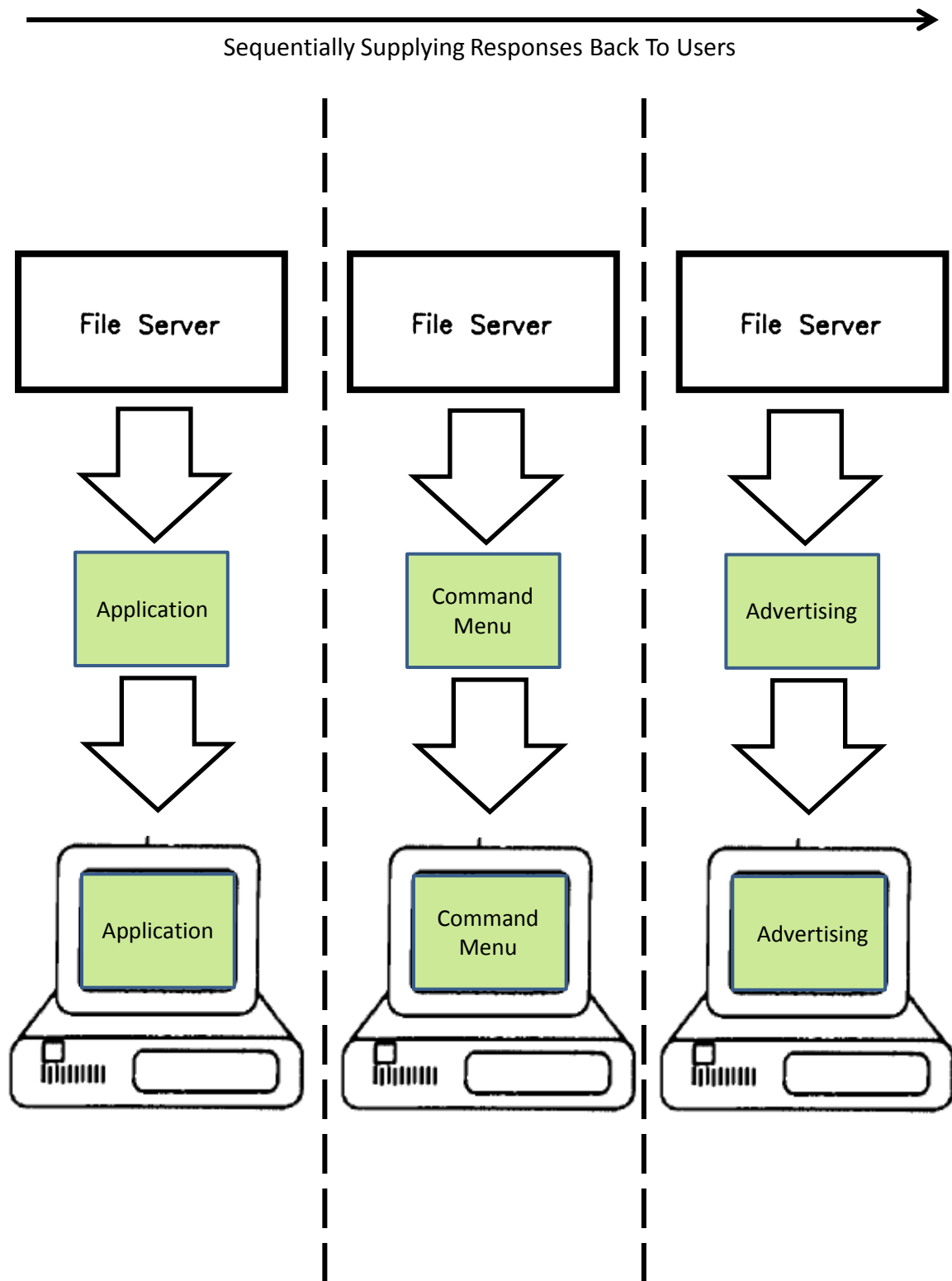


EXHIBIT I

Preferred Embodiment With Stored Objects (Highlighted In Blue) And Unavailable
Objects (Highlighted In Green)

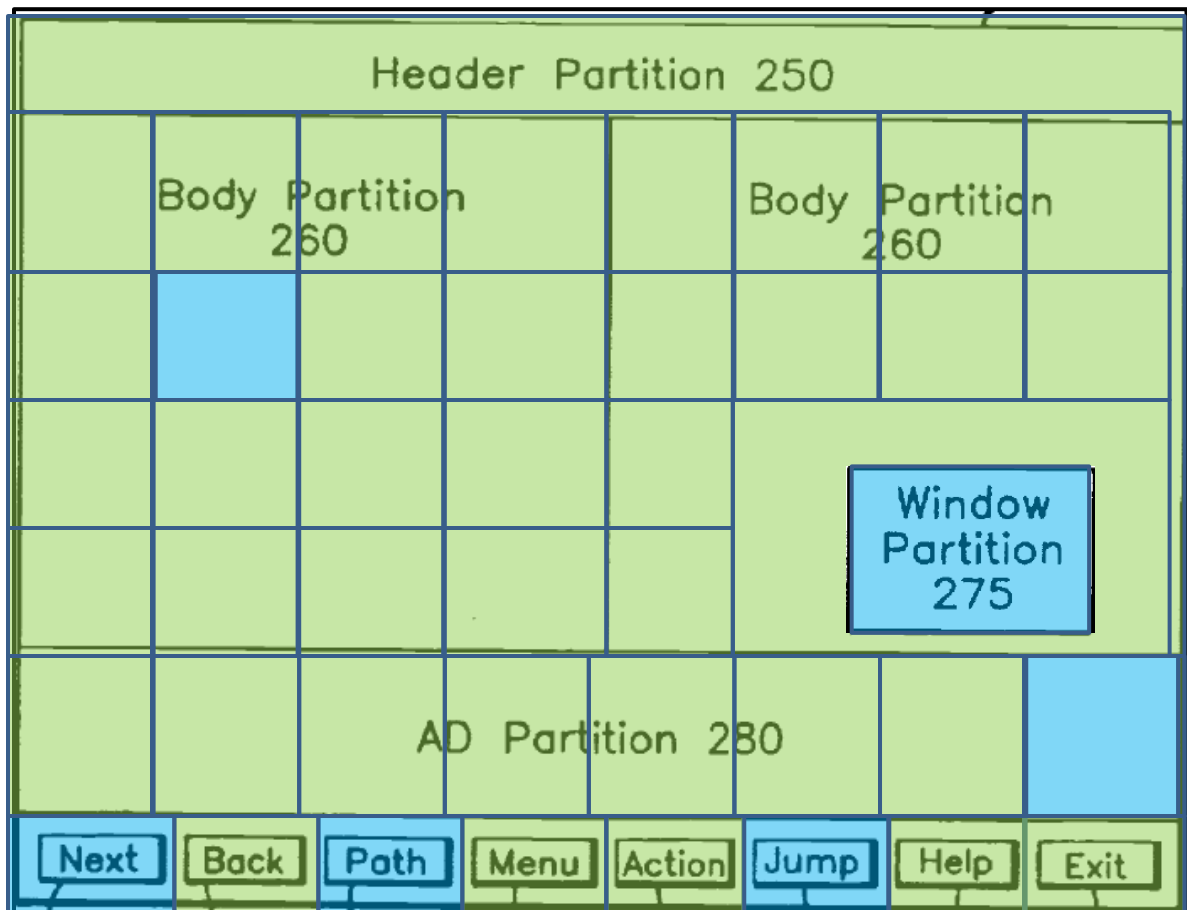


FIG. 3a

EXHIBIT J

Preferred Embodiment With Objects Retrieved From Stored Objects (Highlighted In Blue)
Or From The Network (Highlighted In Green) Used To Display Applications

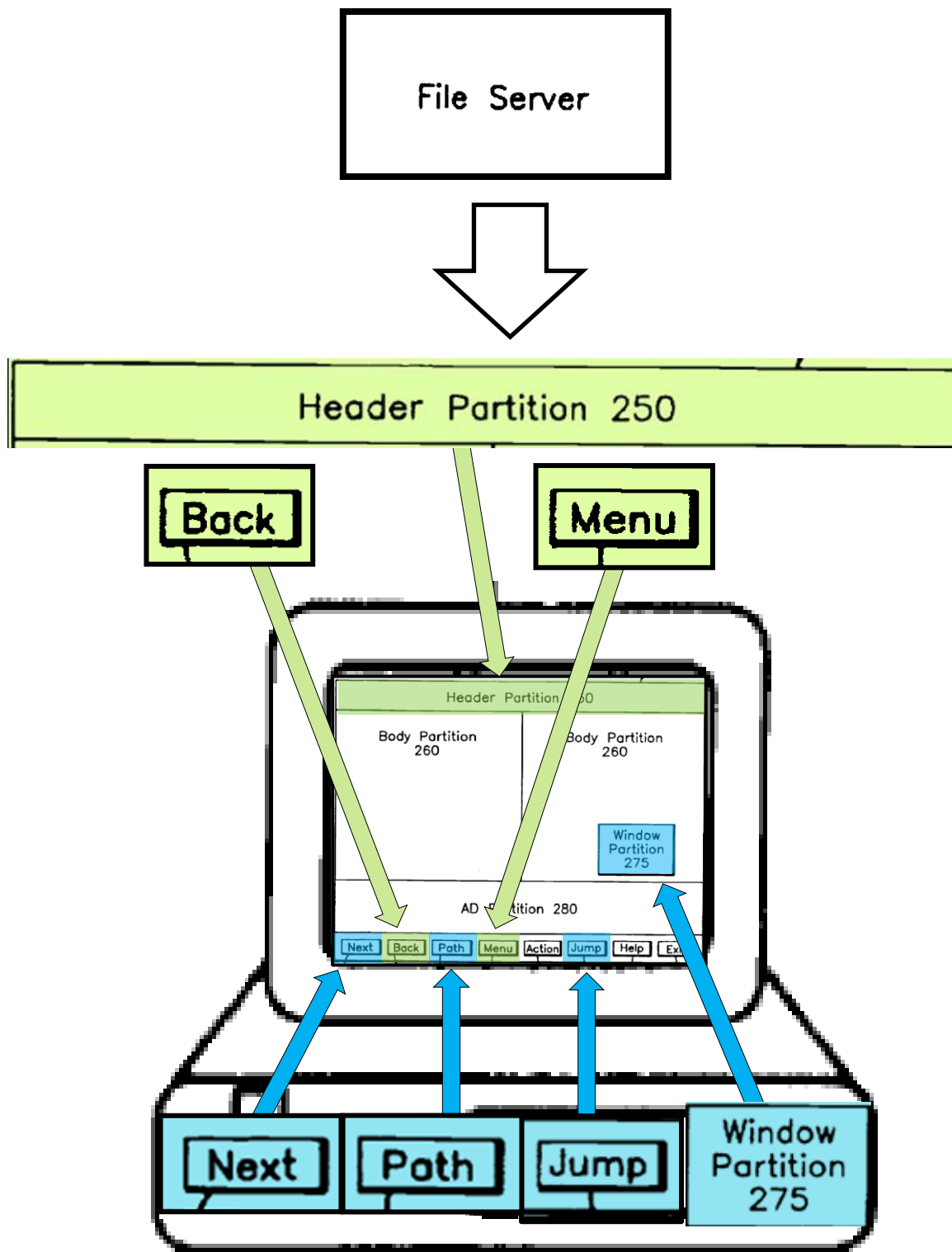


EXHIBIT K

Potential Claim Constructions**The '346 Patent**

Claim Term	Potential Construction
single-sign-on	an authentication process whereby the user is subsequently not required to perform another authentication operation during a particular user session (1:53-61)
authentication	the process of validating a set of credentials that are provided by a user or on behalf of a user (9:50-51)
protected resource	an application, an object, a document, a page, a file, executable code, or other computational resource, communication-type resource, etc., identified by a Uniform Resource Locator (URL), or more generally, a Uniform Resource Identifier (URI), that can only be accessed by an authenticated and/or authorized user (5:60-67)
federated computer environment	a set of distinct entities, such as enterprises, organizations, institutions, etc., that cooperate to provide a single-sign-on, ease-of-use experience to a user by authenticating users, accepting authentication assertions, e.g., authentication tokens, that are presented by other entities, and providing some form of translation of the identity of the vouched-for user into one that is understood within the local entity, wherein the enterprises need not have a direct, pre-established, relationship defining how and what information to transfer about a user (10:62-11:7)
push authentication information	provide authentication information where the request originates from the first system (31:40-47)
pull authentication information	provide authentication information where the request originates from the second system (31:40-47)

Potential Claim Constructions**The '601 Patent**

Claim Term	Potential Construction
recursively embedding the state information in all identified continuations	modifying all identified continuations, <i>e.g.</i> hyperlinks, to include state information, <i>e.g.</i> user-ID and session-ID, during a conversation (10:30-55; 13:5-7; 13:15-18; 16:1-4)
continuation	a new request, logically related to the original request, which a client may send to a server, such as a hyperlink (2:49-56; 6:60-61)
conversation	a sequence of communications between a client and server in which the server responds to each request with one or more continuations from which the client picks the next request to continue the conversation (2:58-63)
stateless protocol	a protocol where every request from a client to a server is treated independently of previous connections (3:66-4:9; 7:33-40)
HTTP	HyperText Transfer Protocol, which is an example of a stateless protocol (2:25-28)
HTML	HyperText Markup Language, which is the language used by web servers to create and connect documents that are viewed by web clients (2:15-16)
CGI program	Common Gateway Interface program, which executes on a web server and provides data to the web client using HTTP (4:33-37)

Potential Claim Constructions**The '967 And '849 Patents**

Claim Term	Potential Construction
objects	separate data structures having a uniform, self-defining format that are known to the reception systems, including, <i>e.g.</i> , data types, such as interpretable programs and presentation data for display at the monitor screen of the user's personal computer ('967 Patent, at 5:52-58; '849 Patent, at 5:54-60)
applications	information events composed of a sequence of one or more pages opened at a screen to provide presentation access and processing access ('967 Patent, at 1:16-35, 9:33-40; '849 Patent, at 1:17-32, 9:35-48)
partitions ('967 Patent) or portion ('849 Patent)	areas of the screen of display ('967 Patent, at 16:4-7; '849 Patent, at 16:15-18)
command functions ('967 Patent)	selectable regions of an interface that enable the user to interact with the network by navigating among the applications ('967 Patent, at 10:26-35; 17:24-18:8)
selectively storing advertising objects ('849 Patent)	advertising objects are selected for storing if they meet certain criteria, such as being non-volatile, non-critical to network integrity, or if they are critical to ensuring reasonable response time ('849 Patent, at 9:1-5)

EXHIBIT L

210, 26

2301

#3

11-9-94
mjc

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Appln. of: Robert Filepp et al. Group Art Unit: 2301
Serial No.: 08/158,031 Examiner: H. R. Herndon
Filed: November 26, 1993

Title: METHOD FOR PRESENTING APPLICATIONS
IN AN INTERACTIVE SERVICE

RECEIVED

NOV 09 1994

GROUP 2300

DISCLOSURE STATEMENT UNDER 37 C.F.R. 1.97

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

In the course of prosecuting the parent of the current divisional application, Applicants became aware of certain information concerning use of their invention that occurred prior to the filing of the parent application that could be regarded as material to examination of the current divisional application. While this information was fully described to the Patent and Trademark Office during prosecution of the parent application now issued as U.S. patent 5,347,632, consistent with their duty under 37 C.F.R. 1.56, Applicants would like to bring that information to the attention of the Patent and Trademark Office for consideration during prosecution of their divisional application.

USE INFORMATION

As originally conceived, the PRODIGY[®] Service (Service) to which this invention relates, called for a new approach to distributed data processing; a new approach that subsequently proved to require almost two years to test and implement.

In formulating the framework for the Service, Applicants believed that to be commercial viable, the Service would have to handle user populations in the millions. Further, it was also believed that to be successful, the Service would have to provide user populations of such size with low response time to requests for information and transactions and do so at low cost. Still further, it was felt that to achieve the desired low response times while maintaining attractive service pricing, it would be necessary to simplify the Service architecture so as to speed system operation and hold equipment capital and operating cost low. Accordingly, Applicants believed the "dumb" terminal approach commonly used in conventional systems with its reliance on host size and complexity for performance would not be suitable.

In light of these considerations, Applicants proposed to structure the Service so that a subscriber could use a personal computer (PC) to access the Service. This would permit the subscriber to bring the computing power of his or her PC to the Service, thereby reducing demand on the Service computing resources and allowing the Service hardware to be simplified. Further, in order to configure the Service so that it could be handled by a subscriber's PC, it was proposed the applications offered on the Service be partitioned; i.e., structured as separable units of data and program code capable of being processed by the PC. Additionally, Applicants recognized that if the partitioned application units were made up of separable units of data and program code; i.e., "objects", the Service database needed to support the applications would be organized based on these objects, and the objects distributed and stored at various levels in the system so that application display time could be minimized as a function of the storage capacity of the

PC; i.e., optimize Service performance relative to the subscriber equipment capacity.

More specifically, Applicants reasoned that if the application to be disposed at the subscriber's PC could be composed on the fly at run time from objects stored at the PC, the applications could be presented quickly and with minimal reliance on the Service resources. Further, if the subscriber's PC lacked the capacity to store all the objects required for an application to be displayed, those objects in excess of the PC storage capacity could be obtained from the Service network as needed to assure maximum local support from the available PC resources.

However, to accommodate this intended role for the reception system, the Service software, i.e., software for the host, cache/concentrator system and reception system, together with the other support facilities - and the software for the various applications to be run on the Service had to be originally designed and created. And, since these software designs would be new, a substantial test and development period for the Service software was anticipated.

As events proved, that period extended over almost two years and progressed through three phases. As will be appreciated, throughout the three phases, parallel and intertwined efforts were undertaken to develop and test all components of the Service hardware and software; i.e., host, cache/concentrator system, reception system, etc. However, since this disclosure statement is being filed in connection with a patent application primarily directed to the Service reception system, to the extent possible, discussion will be focused on that aspect.

The first phase of the test and development period extended from approximately January 1987 through September 1987. During that period efforts were directed to establishing the viability of the general concepts underlying the Service and reception system noted above. In this phase, testing was conducted confidentially by Prodigy employees and outside consultants either at the Prodigy facilities or from the homes of the Prodigy employees, the employees acting as pseudo-subscribers.

Once it was determined that the basic approach to the Service and reception System was workable, testing entered a second phase. In the second phase, Prodigy sought to determine if the service and reception system would continue to operate in the hands of users who, while experienced with computer technology as a result of either occupation or interest, had not contributed to or participated in the design of the Service or reception system. Additionally, Prodigy sought to determine if the reception system would continue to operate as changes were made in it to fix problems encountered and to encompass the broader range of subscriber hardware and operating system configurations that existed in the subscriber population Prodigy intended to serve. Still further, Prodigy sought to test whether the reception system would continue to operate with the growing number of applications of increased object complexity being added to the Service.

To digress briefly, from its inception Prodigy believed its Service would have to provide a broad range of transactional and informational applications to be accepted by the public. For example, it was felt that to be viable, the Service would have to include transactional application such as electronic banking, financial management, at home grocery shopping, travel reservations and department store shopping, among others. In

addition, Prodigy felt it would be essential to provide informational and entertainment applications such as current events, sports and business news, games and such items as expert commentary on a variety of subjects as well as special features and the like. As will be appreciated, this range of applications requires a broad scope of objects that vary in number and technical complexity. Accordingly, the objects for these applications present a significantly varying level of load on the reception system and Service, load that had to be tested before the reception system and Service could be commercially offered to the public. Further, since the range of applications called for a diversity of sponsorship and required a significant number of man hours to create, they were not all immediately available for testing as development of the reception went forward. Accordingly, reception system testing had to be coordinated in time with the expanding complexity of the Service, a coordination that extended through both the second and third phases of test and development.

The second phase of testing and development extended from approximately the beginning of October 1987 through the end of March 1988. During this phase, Prodigy organized three small groups of approximately 100 individuals each, the groups being located at select point in the Country corresponding to the extent of the communication links setup for the Service. To foster interest and confidentiality, individuals selected for each of the groups either had some relation to Prodigy or were likely to have technical interest and familiarity with computer technology that would enable them to test the reception system and Service.

As noted, all testing was conducted on a confidential basis. Additionally, the reception system software and use of

the Service were provided to the users free of charge. Still further, Prodigy maintained control over usage of the reception system and Service by issuing identification numbers that the users had to present, and that Prodigy had to accept, each time the user sought access to the Service. Additionally, and as will be appreciated, due to the unique nature of the reception system software, it had no use other than to facilitate interaction with the Service. Thus, by controlling access to the Service, Prodigy also controlled usage of the reception system software by the user. Yet further, Prodigy retained ownership of the reception system software, providing only a license for its use. Additionally, in accordance with the terms of the license, the user was obliged not to attempt to reverse compile or otherwise reverse engineer the source code, the source code for the reception system not having been supplied. As well, Prodigy monitored activity of these individuals by tracking identification numbers and noting frequency of use, type of applications viewed and duration of use sessions. Also, Prodigy maintained technical support telephone lines so users could report all problems encountered. In addition, Prodigy also monitored the effect of usage on network performance. Still further, Prodigy periodically met with representatives of the various groups to discuss the users' experiences and problems. And, as the reception system software was revised, the later versions were provided to the users in order to retire the earlier versions.

Concerning the makeup of the various groups, the first group that participated in the testing included approximately 100 IBM employees located in the Hartford, Connecticut area, IBM being one of the founders of Prodigy. This group first became involved in October of 1987 when the Prodigy host and Service

were established for external access. In the course of the testing, the IBM-Hartford group remained substantially stable in size, the group growing only slightly from 100 to 109 individuals over the 6 month period from October 1987 to the end of March 1988.

The second group established in phase two of the test period included a panel of individuals from the Atlanta, Georgia and San Francisco, California areas. These individuals were typically employees of companies who were sponsoring or planning to sponsor applications on the Service, or who maintained some other relation with Prodigy; e.g., employees of the company that provided modems that were to be offered by Prodigy to future subscribers. This group began in approximately November of 1987 with some 30 individuals and grew to approximately 160 individuals by the end of March 1988.

Finally, the third group included members of the Connecticut Computer Society located in West Hartford, Connecticut, and comprised approximately 80 individuals in January 1988 when it first became active. Subsequently, the group expanded to approximately 90 individuals by the end of March 1988.

Following the second phase of test and development, these groups continued to operate into and through the third phase of test, growing only slightly in size. Ultimately, when Prodigy began to close out the final phase of testing in early August 1988, the three groups comprised approximately 110 Hartford IBM employees, approximately 165 panel members and approximately 100 Connecticut Computer Society members.

As a result of problems encountered in the second phase of test, the broadening range of PC hardware and operating system combinations required to be supported in the anticipated

subscriber population, and the continuing increase in the number and complexity of the Service applications, the reception system software was changed during the second phase of test and a new version created. While Applicants believed they were approaching a form of the reception system that could be used to support a commercial offering of the Service, they still had not as yet tested in an environment having subscribers in sufficient numbers and low enough level of technical understanding as would show whether the reception system and Service were sufficiently complete to permit the reception system and Service to be offered to the public, or whether further changes would have to be made before the reception system and Service would perform as intended.

As will be recalled, the reception system is a integral part of a compound and sophisticated computer network and must perform in harmony with the Service host, cache/concentrator system, application objects and the user's PC environment if applications are to be composed and displayed from objects locally stored and supplied by the network at run time. Still further, because the demand of the many reception systems of the subscriber population are funneled up to the common cache/concentrator and host, and because the Service as structured was substantially a pioneer system, it was by no means certain what the consequences would be on the reception system and Service performance if the subscriber population was dramatically increased by unrestricted supply of the reception system and Service to the public.

Moreover, because the public generally perceived videotex as a still emerging technology, Prodigy believed that if the reception system and Service were prematurely released and experienced technical difficulties, adverse public reaction

would result that would severely retard acceptance, and put at risk the substantial amount of money and man hours that were being expended on development. Accordingly, Prodigy elected to test the reception system and Service over a broader user base to see if the reception system and Service would continue to operate. For these tests, Prodigy proposed to gradually increase load levels by progressively adding groups of individuals secured from the public sector. This public testing constituted the third phase of the test and development period.

The third phase of the test period started at the beginning of April 1988 and extended through the beginning of August 1988. For the third phase, Prodigy began by progressively securing approximately 2,600 individuals in the three regions Prodigy had been testing with the approximately 300 individuals of phase two; i.e., Hartford, Connecticut, Atlanta, Georgia and San Francisco, California.

Once again, the reception system software and Service were provided free of charge. More specifically, a select list of individuals and groups likely to be interested in the Service the were approached by mail and telephone and offered the reception system and Service as so called "Founding Members" of the Service. As part of the program, the participating new users would receive revisions of the reception system software produced during phase two testing, along with six months use of the Service for free. Additionally, if at the end of the six-month free period, the users wished to continue the Service, they can do so at a reduced rate that would extend for up to a year thereafter. Still further, if the prospective new users did not have a modem to access the Service, Prodigy proposed to sell one to them at a reduced price.

As in the case of phase two of the testing, Prodigy retained ownership of the reception system software, providing only a license to the prospective users. As before, under the terms of the license, Prodigy required the users not attempt to reverse compile or otherwise reverse engineer the source code, the source code not having been provided. Also, Prodigy again controlled use of the reception system software and access to the Service by issuing identification numbers that were required to be presented by the individual users at log on. And, as in phase two testing, Prodigy compiled and maintained extensive records concerning the frequency, duration and character of use. Again, Prodigy also maintained a user telephone support line for the report of any problems. Still further, as before, Prodigy monitored the consequence of the increased usage on all levels of the Service network. However, while the internal operation of the reception system software was not disclosed to the new users, the new users rather receiving only instruction on use of the Service, no prohibition of confidentiality was imposed.

Distribution of the reception system software in the new version that emerged from the second phase of the test period began on March 29, 1988. Use by Founding Members thereafter grew from approximately 50 members at the beginning of April 1988, to approximately 2,600 by the end of May 1988.

At the beginning of June 1988, in accordance with its plan of gradual increase in system loading, Prodigy again sought to broaden the user population to assure that when ultimately offered to the public, the reception system and Service would operate as intended. Accordingly, at the beginning of June, a still further revision of the reception system software and a period of Service were offered to perspective users for free. Specifically, perspective users were offered a further revision

of the reception system and a three month period of use of the Service for free as so called "Charter Members." Here, however, no continuation of the Service at a reduced rate following the free period was offered. Additionally, while a modem was again offered at a reduced price to those who might require it, the price reduction was not as large as offered to the Founding Members.

Once again, Prodigy retained ownership of the reception system software, the new members receiving only a license to use it. And as before, in accordance with the terms of the license, the new users were obliged not to attempt to reverse compile or otherwise reverse engineer the source code, source code not having been provided. Prodigy again controlled use of the reception system software and access to the Service by issuing identification numbers that were required to be presented by the users at log on to the Service. As well, Prodigy again complied and maintained extensive records concerning frequency, duration and character of use together with any problems that arose. Prodigy additionally maintained a user support telephone line to enable the new users to report any problems. As in the case of the first group of users that were given access to the reception system software and Service, in third phase of testing, the operation and structure of the reception system was not disclosed to this second group of users in the third phase of test. Rather, there users were again only given the reception system diskette and instruction on how to run the Service. Confidentiality, however, was not sought in connection with use of the reception system or the Service. In the third phase of test, from approximately June 1988, the number of users grew from approximately 2,600 Founding Members to a total of

approximately 6,500 Founding and Charter Members at the beginning of August 1988.

Following distribution of the revised version of the reception system software to the Charter Members in June of 1988, Prodigy recognized that a still further revision of the reception system would be required. However, it was believed that if this further revision would perform as intended, it would be adequate to support release of the reception system and the Service to the general public. Accordingly, following continued internal development of the further revision of the reception system, Prodigy on or about August 5, 1988, approved release of the further revised version of the software to support the public offering of the Service.

Following approval in early August of 1988, efforts went forward to distribute the final version of the reception system software to existing users, thus marking the end of the third phase of testing. Thereafter, the existing user base continued to grow as the Charter Members program ran its course. Accordingly, by the beginning of September 1988, the number of subscribers had grown to approximately 11,000, and in early October, following introduction of the Service in selected cities throughout the Country, the user base jumped to approximately 16,000.

Since Prodigy provided transactional as well as informational applications on the Service, it was necessary during the test and development period to allow users to purchase goods and services offered in certain application in order to determine if the transactional aspects of the Service and the reception system would operate as intended. More particularly, in the second phase of test, during the months of

January, February and March of 1988, users of the Service purchased a total of approximately \$650 worth of goods and services. Thereafter, in the four month period from April 1988 to the beginning of August of 1988, that constituted the third phase of testing, users purchased approximately \$28,000 of goods and services. These amounts are to be contrasted with the purchase goods and services in the 10 day interval from August 25, 1988 to September 5, 1988, following the end of experimental period where purchases were approximately \$121,000.

Moreover, it is to be noted the amounts of money paid for the goods and services purchased ultimately were paid to the sponsors of the applications that offered them. Further, while these sponsors did pay a fee to Prodigy to create and display the applications and advertisements that were run on the sponsor's behalf, such amounts were paid to Prodigy to offset the cost of production, operating expense and development cost for the Service. And, Prodigy realized no profit from these activities during the experimental period.

Continuing, also during the test period, as is customary in connection with software development, Prodigy held discussions with retailers who were to support retail sale of the reception system software at the end of September 1988 when the software was offered to the general public. By the beginning of February 1988, Prodigy had reached understandings with approximately 6 chain distributors in various channels of distribution; e.g., computer stores, software stores, specialty electronics stores and department stores, who indicated they would handle the software when it became available. In these discussions, Prodigy advised that the reception system and Service were under development, but were expected to become generally available

between September and October of 1988. In addition, Prodigy expressly reserved the right not to supply the reception system software until Prodigy felt it was ready for release to the Public. By the end of April 1988, the number of distribution chains with whom Prodigy had reached such understandings had increased to approximately 8.

As well, in the early part of April 1988, Prodigy attended a computer faire in California at which it demonstrated the Service as it then existed. More specifically, between April 7-10, 1988, Prodigy attended the West Coast Faire held in San Francisco, California. At the Faire, Prodigy gave a demonstration of the Service as it then existed; i.e., lacking a number of the transactional applications such as at home banking, grocery shopping and travel reservations. For the demonstration, Prodigy used the version of the reception system software that was then available, that version being revised twice more during the third phase of the test and development period. Additionally, the observers were told that while the service was not yet generally available, it was expected to be provided in the San Francisco area by the fall of 1988. Still further, the nature of the application that were expected ultimately to be available on the Service; e.g. many of the transactional applications, were described and a demonstration diskette distributed that displayed certain segments of the service without support of the network. Still further, the observers were invited to fill out a follow-up cards if they felt they wanted Prodigy to contact them when the Service became publicly available in the San Francisco area in the fall. Approximately 4,000 cards were filled out and submitted.

In light of the above, and based on the novelty of the invention, the uncertainty typically associated with newly developed software and the inability to adequately simulate the intended use environment in the laboratory, it was necessary for Applicants to undertake a period of test and experimentation to determine whether their reception system would perform as intended. Accordingly, Applicants would respectfully submit that their invention was not in public use or on sale under the terms of 35 U.S.C. 102(b) before the end of the test and experiment period on or about before August 5, 1988, when approval for release of the reception system was given.

DISCUSSION

Section 102 of title 35 of the United States Code provides in pertinent part:

A person shall be entitled to a patent unless -

...

(b) the invention was ... in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States;

35 U.S.C. 102 (1988).

While the diversity of opinion expressed by the regional federal circuit courts in the past had given rise to questions concerning what activity is permitted and what activity is not permitted under the "public use" and "on sale" provision of 35 U.S.C. 102(b), the Court of Appeals for the Federal Circuit has now resolved those questions.

Since its inception in 1982, the Federal Circuit has sought to clarify this area of the law by reference to and reliance on

the policies underlying the statute. In its decisions, the Federal Circuit has developed a procedure and guidelines that call for application of the statutory objectives of section 102(b) to the totality of circumstances that make up the case under review. As pointed out by the Federal Circuit on numerous occasions, the seeming infinite variety of factual situations presented by section-102(b) cases make it impossible to attempt to resolve the issues presented based on application of rigid, per se rules that emphasize one or another factor.

Most recently the Federal Circuit articulated these principles in its holding in *Manville Sales Corp. v. Paramount Systems, Inc.*, 16 USPQ2d 587 (Fed. Cir. 1990), where it noted:

In order to determine whether an invention was on sale or in public use, we must consider how the totality of the circumstances compare with the policies underlying the on sale and public use bars. This is necessary because "the policies or purposes underlying the on sale bar, in effect, define it ." *Envirotech [Corp. v. Westech Engineering, Inc.]*, ... 15 USPQ2d at 1232 (quoting from *RCA Corp. v. Data General Corp.* ... 12 USPQ2d 1449, 1454 (Fed. Cir. 1989)).

Id., at 1591. See also *TP Laboratories v. Professional Positioners, Inc.*, 220 USPQ 577, 582 (Fed. Cir. 1984); *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 4 USPQ2d 1210, 1213 (Fed. Cir. 1987); and *A.B. Chance Co. v. RTE Corp.*, 7 USPQ2d 1881, 1884 (Fed. Cir. 1988).

The court went on to note that it had enumerated the policies underlying 35 U.S.C. 102(b) in its holding in *King Instruments Corp. v. Otari Corp.*, 226 USPQ 402 (Fed. Cir. 1985) cert. denied 475 U.S. 1016 (1966), where it explained those policies as including:

(1) discouraging removal of inventions from the public domain which the public justifiably comes to believe are freely available;

(2) favoring prompt and widespread disclosure of inventions;

(3) giving the inventor a reasonable amount of time following the sales activity to determine the value of a patent; ... and

(4) prohibiting an extension of the period for exploiting the invention.

Id., at 406. See also *Manville Sales Corp. v. Paramount Systems, Inc.*, 16 USPQ2d 1587, 1591 (Fed. Cir. 1990); *Envirotech Corp. v. Westech Engineering, Inc.*, 15 USPQ2d 1230, 1232 (Fed. Cir. 1990); and *TP Laboratories v. Professional Positioners, Inc.*, 220 USPQ 577, 580 (Fed. Cir. 1984).

Applicants respectfully submit that comparison of the statutory policies articulated by the Federal Circuit with the totality of circumstances surrounding the test and development of Applicants' invention shows that Applicants' activities were consistent with those policies and well within the bounds of permissible conduct.

As the Federal Circuit described in the *Manville*, *Envirotech* and *King Instrument* cases *supra*, a first concern of the statute is to discourage removal of inventions from the public domain that the public justifiably believes are freely available.

At no time in the course of Prodigy's test and development period could the public have considered the Applicants' reception system to be in the public domain. In the first phase of test and development that extending from January 1987 to the end of September 1987, all activities concerning the reception

system were confidential and handled exclusively by either Prodigy employees or outside consultants bound by express terms of confidentiality. Further, all documents and materials relating to the reception system were marked confidential and treated accordingly. As a result, the public had no access to or knowledge of the reception system during this phase of testing, and thus could, not have come to believe the reception system was in the public domain.

During the second phase of test and development; i.e., from the beginning of October 1987 to the end of March 1988, Prodigy continued to mark and maintain all documents and materials relating to the reception system as confidential. Further, while the non-employee testers who participated in testing the reception system and Service during this phase, as described above, did receive prototype versions of the reception system software, no disclosure of the source code, or the structure or internal operation of the reception system was made to them. Rather, Prodigy merely licensed the software to the non-employee test users on terms that required them not to attempt to reverse compile or otherwise reverse engineer the source code. Still further the users were required to handle the reception system software and Service on a confidential basis. Accordingly, there was no conduct by Prodigy in the second phase of the test and development period that could lead the public to believe the reception was in the public domain.

Finally, in the third phase of the test and development that extended from beginning in of April 1988, to the beginning of August 1988, Prodigy, again, continued to mark and maintain confidential all documents and materials that disclosed the source code, and the structure and internal operation of the

reception system. While as described, copies of the reception system software were distributed to the select groups of users secured in the third phase of testing, again, no disclosure of the reception system source code, its structure or internal operation was made. Rather, as in the second phase of test, the distribution of the reception system consisted of the distribution of diskettes on which the reception software was provided in object code only, a form substantially unintelligible to the user. Also, Prodigy retained ownership of the reception system software and merely licensed its use to these individuals. And, in accordance with the terms of the license, the recipients were obligated not to reverse compile or otherwise reverse engineer the reception system source code. Thus, Prodigy again took all reasonable and usual steps under the circumstance to keep the structure and operation of the reception system secret, and put the public on notice that Prodigy had reserved its right in the reception system. Accordingly, Prodigy engaged in no conduct in the third phase of the test and development period that would permit anyone to believe the reception system had been put in the public domain.

The second concern underlying 35 U.S.C. 102(b) as articulated by the Federal Circuit in *King Instrument, supra*, is the "prompt and widespread disclosure of the invention." As pointed out by the Federal Circuit in *Manville, supra*, at 1592, prompt and widespread disclosure permits an inventor to undertake any testing necessary to enable the inventor to conclude whether or not the invention will perform as intended.

In accordance with this aspect of the statute, it has been recognized for over a hundred years that an inventor is free to test his invention to a point where he is persuaded it will work

as intended. As explained in the Supreme Court in the landmark case of *City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126 (1877) where the Court discussed the inventor's experimental installation of the pavement block he had invented:

That the use of the pavement in question was public in one sense cannot be disputed. But, can it said that the invention was in public use? The use of an invention by the inventor himself or any other person under his direction by way of experiment, and in order to bring the invention to perfection, has never been regarded as such a use. [citation omitted]

Now, the nature of a street pavement is such that it cannot be experimented upon satisfactorily except on a highway, which is always public.

When the subject of invention is a machine, it may be tested and tried in a building, either with or without closed doors. In either case, such use is not a public use, within the meaning of the statute, so long as the inventor is engaged, in good faith, in testing its operation. He may see cause to alter it and improve it, or not. His experiments will reveal the fact whether any and what alterations may be necessary. If durability is one of the qualities to be attained, a long period, perhaps years, may be necessary to enable the inventor to discover whether his purpose is accomplished. And though, during all that period, he may not find that any changes are necessary, yet he may be justly said to be using his machine only by way of experiment; and no one would say that such a use pursued with a bona fide intent of testing the qualities of the machine, would be a public use, within the meaning of the statute. So long as he does not voluntarily allow others to make it and use it, and so long as it is not on sale for general use, he keeps the invention under his own control and does not lose his title to a patent.

It would not be necessary, in such case, that the machine should be put up and

used only in the inventor's own shop or premises. He may have it put up and used in the premise of another, and the use may inure to the benefit of the owner of the establishment. Still, if used under the surveillance of the inventor, and for the purpose of enabling him to test the machine and ascertain whether it will answer the purpose intended and make such alterations and improvements as experience demonstrates to be necessary, it will still be mere experimental use, and not a public use, within the meaning of the statute.

Whilst the supposed machine is in such experimental use, the public may be incidentally deriving a benefit from it. If it be a grist mill, or carding-machine, customers from the surrounding country may enjoy the use of it by having their grain made into flour, or their wool into rolls, and still it will not be in public use, within the meaning of the law.

Id., at 134-35. See also *TP Laboratories v. Professional Positioners, Inc.*, 220 USPQ 577, 581-2 (Fed. Cir. 1984). *Grain Processing v. American Maize*, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988); and *Manville Sales Corp. v. Paramount Systems, Inc.*, 16 USPQ2d 1587, 1592 (Fed. Cir. 1990).

Throughout the three phases of the test and development period, in accordance with the principles laid down in *City of Elizabeth*, *TP Laboratories*, and *Manville*, cases *supra*, Prodigy sought to ascertain whether the reception system was suitable for its intended purpose. Since the primary requirement for the reception system was to enable very large user populations to manipulate the partitioned applications available on the Service, Prodigy sought from the first to the third phase of testing to determine, first, whether the reception would be capable of automatically staging and processing partitioned applications at all, and, second, whether that capability would

be sustained as user levels were progressively increased toward the levels anticipated for the intended environment.

Further, once it was recognized as essential to expand user population in order to assess whether the reception system would perform in its intended environment, Prodigy further recognized that in view of the particular nature of the invention, and in accord with the observations expressly noted in *City of Elizabeth, supra*, regarding special need of certain inventions, that at least a portion of the experimental testing would have to be public. As pointed out earlier, the design of the reception system and other elements of the Service network required development of substantial amounts of new and original software. Moreover, not only were the individual elements of the network software new, but also, the Service called for the multiple software elements to be coordinated and harmonized for cooperative operation within the Service network. Further, by their nature, software and software combinations, at least while in their initial stages of development, are inherently unpredictable, it being difficult, if not impossible to foretell how such combination will operate and interact. Accordingly, it was deemed essential that some testing be undertaken in an environment approximating the environment the reception system was intended to operate in.

However, a meaningful approximation of the intended use environment for the reception system and Service was not readily attainable in a conventional laboratory or test facility. As noted, user populations in the millions were anticipated as necessary for the Service. Accordingly, laboratory testing of even a fraction of such numbers, if realizable at all, would have been physically and economically impossible to achieve at

the Prodigy facilities. As a result, the nature of the reception system and Service dictated that some testing be public. Accordingly, public testing of the reception system was undertaken in the third phase of the test and development period.

Further, in order to minimize the amount and duration of public testing, Prodigy sought to advance basic viability study of the reception system as far as possible in the first and second phase of test, and leave expanded population; i.e., stress, testing to the end. As noted above, the duration of the third phase of testing was the shortest of the test and development period, lasting only approximately 4 months.

Continuing, also in accord with the *City of Elizabeth*, *TP Laboratories*, and *Manville*, cases *supra*, Prodigy maintained control of the testing and created substantial records of the experience during the period. As pointed out above, Prodigy controlled testing with the identification numbers that were given to the users and required to be presented at log on in order to access the Service. As also previously noted, the reception system had no other significant use than to access the Service, no other partitioned application videotex service to Applicants' knowledge being available at the time in the Country. In addition, for all the users who were active, during the test period, Prodigy maintained records of the frequency and duration of use as well as the applications accessed. Still further, Prodigy kept careful record of any and all problems that were experienced, and revised the reception system software during the several phases of the test and development period accordingly.

Therefore, since Applicants' most recent filing has a date of less than a year from the end of the test and development period, Applicants would respectfully submit that the filing is consistent with the policy of prompt and wide spread disclosure of the invention underlying the 35 U.S.C. 102(b).

The third and fourth policy articulated in *King Instrument, supra*, as underlying Section 102(b) concern commercial exploitation of the invention, and can be considered together. Specifically, the third and fourth articulated policies, respectively, require the inventor be given a reasonable time to determine the value of a patent, but that the inventor not extend the period for exploiting the invention. As construed by the Federal Circuit in *Manville, supra* at 1591-92, and other cases, these sections have the effect of prohibiting commercial exploitation of the invention more than a year before the filing date of a patent application, the year period representing the articulated "reasonable time" beyond which exploitation of the invention would be considered impermissible extension. Or stated otherwise, where an experimental period extends for more than a year before an application filing date, there must be no impermissible commercialization of the invention during that portion of the experimental period that extends beyond the one year limit.

Applicants would respectfully submit that their invention was not commercially exploited until after the close of the test and development period; i.e., after August 5, 1988. As noted above in connection with the description of the test period, at no time did Prodigy charge for the copies of the reception system software that were distributed or for access to and use of the Service.

While as noted above, users, during the second and third phase of the test period, did pay for goods or services they purchased in the course of accessing certain of the transactional applications, the purchase prices for those items were paid to the sponsors of the applications that offered them. Accordingly, the payments were merely incidental to the testing of the reception system. As also noted above, during the test period, Prodigy received fees from sponsors of applications that were running on, or in the process of being created to run on the Service. However, again as noted above, those amounts were paid for producing the applications and for maintaining them on the Service. Accordingly, the fees received for creating and maintaining the applications on the Service were wholly incidental to the required testing of the reception system.

The Federal Circuit has established that presence of payment in connection with experimental testing does not, of itself establish a section 102(b) bar, but rather, is merely a factor to be considered. For example, in *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 4 USPQ2d 1210 (Fed. Cir. 1987), the Federal Circuit held that payments for oil well packing installed in the course of testing an inventive packing device did not, of itself, destroy the experimental nature of the device testing or establish a section 102(b) bar. In noting that payment in the course of testing is not determinative of a statutory bar, the court said:

The circumstances of payment, it is well established, are factors to be weighed, but payment does not *per se* make a section 102(b) bar.[citing *TP Laboratories, supra*]

Id., at 1214. See also *Ushakoff v. United States*, 140 USPQ 341, 343-44 (C.C.P.A. 1964); *A.B. Chance Co. v. RTE Corp.*, 7 USPQ2d

1881, 1884 (Fed. Cir. 1988); *Manville Sales Corp. v. Paramount Systems, Inc.*, 16 USPQ2d 1587, 1592 (Fed. Cir. 1990).

Moreover, the Federal Circuit has established that where the payment is merely incidental to the experimental testing, no bar will be found. For example, the Federal Circuit in the *TP Laboratories* case *supra*, held payment by dental patients for services rendered in fitting them with free, experimental tooth positioning appliance that were the subject of the invention, were incidental to the testing of the appliances, and neither destroyed the experimental nature of the test, nor establish a bar under 102(b).

The incidental nature of the payments in Applicants' case is apparent on review of the circumstances surrounding them. With respect to the payments by the users for items purchased, as noted these amounts were paid by the users to sponsors for sales that were facilitated by employing the reception system. As such the sales and resulting payments are not compensation to Prodigy for use of Applicants' invention. Rather, they represent benefit to the sponsor that arose from experimentation. And, this is expressly the incidental benefit the Supreme Court approved in *City of Elizabeth*, *supra*, when it noted an invention could be experimentally "used on the premises of another and the use inure to the benefit of the owner" of the premises (*infra* at p 33, last paragraph). Accordingly, payments by the reception system users to application sponsors were only incidental to the testing and could not change the experimental nature of Applicants' testing, or create a section 102(b) bar.

Further, with respect to the fees paid to Prodigy for creation of applications and their maintenance on the Service, here also the payments are inadequate to change the character of

the reception system testing. First, it is to be noted that the reception plays no part in either the creation of applications or their maintenance on the Service. Rather, the role of the reception system is to facilitate access by users to applications that already have been produced and which are already being maintained on the Service. Accordingly, there is no direct relation between use of the reception system and the purpose for which the sponsors made their payments; i.e., creation and maintenance of applications.

Moreover, even if some relation between the use of the reception system and creation and maintenance of application were to be contended, under the principles articulated by the Supreme Court in *Smith & Griggs Manufacturing Co. v. Sprague*, 123 U.S. 249 (1887), such payment would be considered incidental and unable to establishing a bar. In the *Smith and Griggs* case, the Supreme Court expressly acknowledged that payment received from use of an experimental invention in the course of business will not change the experimental use to commercial use unless the business is established and successful and use extends over a prolonged period time.

More specifically, in the *Smith and Griggs* case, after having acknowledged that if a product is produced or disposed of as an incident to the testing, the profit derived would not change the character of use from experimental to commercial, the Supreme Court held that because the inventive buck lever making machine in the case at bar had been used for over a two years, to make some 50,000 gross of buckle levers, all of which levers were sold by the invention owner, the invention had been used in an established and successful business for an extended period,

during which the experimental use had been transformed to a commercial use, and a bar created.

By contrast, however, the Service at the time of the reception system testing and development could not have been considered an established and successful business. Rather, it was a fledgling and pioneer enterprise with an uncertain future that had yet to offer its Service to the general public. Accordingly, any payments made to it for work unrelated to reception testing could not be considered to establish a section 102(b) bar.

As also noted, in accordance with the custom in the software industry, during the test and development period, Prodigy had discussions with a number of retail chain stores regarding future distribution of the reception system software. More specifically, by the beginning of February 1988, Prodigy reached understandings, some oral and some in writing, with a total of approximately 6 such chain retailers. Further, by the end of April 1988, that number had grown to 8. In accordance with the understandings, Prodigy proposed to supply start-up kits for the Service that would include reception system software in approximately the early fall when the reception system and Service was expected to be available for public distribution. However, since the reception system and Service were still in test and development stage, during the time of those discussions, Prodigy expressly reserved the right to withhold the kits and reception system software until it felt they were suitable for their intended purposes; i.e., at least until completion of the test and development period.

As pointed out by the Federal Circuit, sales related arrangements in and of themselves do not establish a 102(b) bar

especially where it has not yet been determined if the invention will operate acceptably in its intended environment. Specifically, in *Shatterproof Glass Corp. v. Libby-Owens Ford Co.*, 225 USPQ 634, 640 (Fed. Cir. 1985) the court found that where the patent owner had solicited orders for specially coated glass while the development and design work for the inventive coating equipment and method were still in progress, a bar under section 102(b) would not arise. The court said:

The clear weight of authority is that a bare offer to sell does not ipso facto satisfy the "on sale" bar and the surrounding circumstances must be considered. ... In *In re Dybel*, ... 187 USPQ 593, 598 (C.C.P.A. 1975) where as here a sales contract had been entered into before the critical date, the court held that "for an invention of the type involved here to be 'on sale', it must be complete at least to such an extent that the purchaser knows how it will perform." As stated in *General Electric Co., v. United States*, ... 211 USPQ 867, 872, n.8 (Ct. Cl. 1981), the invention must have been "sufficiently tested to demonstrate that it will work for its intended purpose."

Id., at 639-40. See also, *A.B. Chance Co. v. RTE Corp.*, 7 USPQ2d 1881, 1884 (Fed. Cir. 1988); *Manville Sales Corp. v. Paramount Systems, Inc.*, 16 USPQ2d 1587, 1592 (Fed. Cir. 1990).

Accordingly, since at the time of discussion with the chain store retailers testing was still in progress to ascertain whether the reception system would perform as intended; i.e., perform all of the functions of the reception system and continue to operate satisfactorily as the user population, application inventory and PC/operating system combinations were expanded, such discussions could not have changed the

experimental character of the test and development period or established a bar under section 102(b).

Finally, as also noted, in the early part of April 1988, Prodigy demonstrated the Service with the use of the a prototype version of the reception system a computer faire in San Francisco, California. Those who witnessed the demonstration were told that the service was not yet publicly available, but was expected to be offered in the San Francisco area in the fall. Additionally, materials were distributed that described the type of applications that could be expected to be accessible on the Service when the Service did become publicly available. Also, stand-alone diskettes compatible with certain PC machines and operating systems were handed out that previewed portions of the Service without support of a host or the network.

However, Prodigy did not attempt to sell the service or the reception system software to any of the faire attendees. Rather, the attendees who witnessed the demonstration were advised to fill out a follow-up card if they were interested in being contacted when the Service became available in the fall. Prodigy's purpose at the faire was to assess the public reaction to the Service as it then existed and the plans for its future development. As noted, Prodigy originally believed that to be successful, the Service would have to include transactional applications such as at home banking, stock brokerage, travel reservations and grocery shopping. However, those applications were as yet not available on the Service due to production complexity and associated difficulties. Accordingly, Prodigy wanted to assess what the public reaction to the Service would be with such applications missing, and whether Prodigy's plan to provide such applications when the service was released would

meet with public approval. In effect, Prodigy sought a mid-course check of its plans for service development. Additionally, Prodigy was interested in obtaining the reaction of a broad cross section of potential future users to the aesthetic aspects of the service; e.g., screen design, screen sequencing, category arrangement, etc.

Accordingly, the demonstration was not an attempt to exploit the reception system. Since the demonstration was focused on showing the content of the Service and plans for its future development, only several terminals were used for the demonstration, each requiring only a prototype form of the reception system software. Because the demonstration would only entail use of several terminals and a limited range of applications, the major transactional application, as noted, not yet being available, the reception was not called upon to exhibit certain features that were fundamental to its intended commercial form. Specifically, the reception was not to be used to demonstrate its ability to operate with large user populations, or to full range of applications intended for the commercial form of the Service, or the range of PC hardware and operating system combination it would be required to support when released. As noted these were the features the reception system was still being tested for compliance with and for which the reception system would be revised for at least twice more before its release to support a general offering of the Service. As a result, the computer faire demonstration could not be considered an attempt to exploit the reception system, since the reception system was not yet in a commercially acceptable form suitable for sale.

Still further, at the time of the demonstration, the Service as noted above, was still at best a fledgling enterprise with an uncertain future. Accordingly, even if use of the reception system to support the demonstration of the service could be considered to have some commercial aspect, the Supreme Court's holding in *Smith & Griggs, supra*, approving incidental commercial consequence of experimental activity except where the activity was in connection with an established and successful business for a prolonged period, would foreclose the arising of a section 102(b) bar in this case.

In summary, Applicants' would respectfully submit that use of the reception system during the test period was wholly experimental. Further, the wholly experimental nature of that use is evidenced by the fact that:

- Public testing of the reception system was made necessary by virtue of the software related nature of the invention, its pioneer character and the inability to reasonably ascertain whether the reception system would operate as intended without public testing;
- Throughout the test period, the Prodigy retained title to the reception system, the users receiving only a license to use the reception system;
- Throughout the test period, Prodigy maintained control of the testing by issuing identification numbers to the users that had to be supplied each time the reception system was used;

- Throughout the test period, Prodigy maintained extensive and detailed records of all reception system use;
- Throughout the test period Prodigy continued to modify the reception system to render it capable of performing as intended;
- Throughout the test period, the reception system source code, structure and internal operation remained confidential;
- Prodigy reserved the public portion of the reception system testing to the last portion of the test to restrict public testing to approximately 4 months;
- Throughout the test period, no charges were imposed for the receipt of the reception system software or for use of the Service; and
- Throughout the test period all commercial activity was minimal and wholly incidental the experimental nature of the testing.

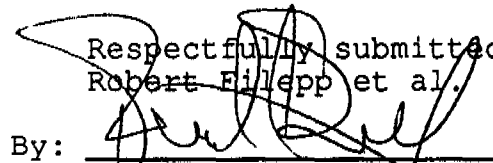
In view of the above, Applicants' would respectfully submit that all activities relating to their invention were consistent with the policies underlying 35 U.S.C. 102(b), and when viewed as a whole, those activities do not constitute a bar to the grant of a patent for their invention.

In submitting this report, Applicants, consistent with their duty under 37 C.F.R. 1.56 have disclosed to the Patent and Trademark Office information that they are aware of which may be relevant to the evaluation of their application. Applicants, however, make no representation that an independent search of the art would not produce more relevant information, or that

others reviewing the disclosure information might not have a different opinion as to its significance.

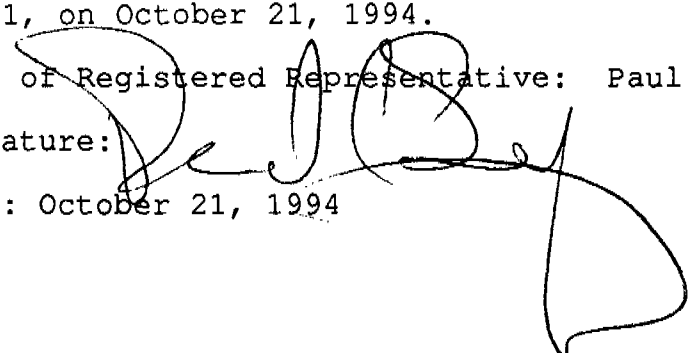
In view of cited patents, technical matter and use information and associated discussion, Applicants would respectfully submit that their invention as described and claimed is distinct and entitled to be patented. Accordingly, Applicants request favorable treatment of their application and allowance of their invention as claimed.

Date: October 21, 1994,

Respectfully submitted
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope having the required postage and addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on October 21, 1994.

Name of Registered Representative: Paul C. Scifo, Esq.

Signature: 

Date: October 21, 1994

EXHIBIT M

(12) **United States Patent**
Halt, Jr.

(10) **Patent No.:** **US 7,603,382 B2**
(45) **Date of Patent:** **Oct. 13, 2009**

(54) **ADVANCED INTERNET INTERFACE
PROVIDING USER DISPLAY ACCESS OF
CUSTOMIZED WEBPAGES**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 550 days.

(21) Appl. No.: **10/982,574**

(22) Filed: **Nov. 5, 2004**

(65) **Prior Publication Data**

US 2005/0097095 A1 May 5, 2005

Related U.S. Application Data

(63) Continuation of application No. 09/318,917, filed on
May 26, 1999, now Pat. No. 6,816,849.

(60) Provisional application No. 60/086,671, filed on May
26, 1998.

(51) **Int. Cl.**
G06F 17/30 (2006.01)

(52) **U.S. Cl.** **707/104.1**; 715/205; 715/234

(58) **Field of Classification Search** 707/104.1,
707/102, 101, 200; 715/200, 205, 234, 760
See application file for complete search history.

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* cited by examiner

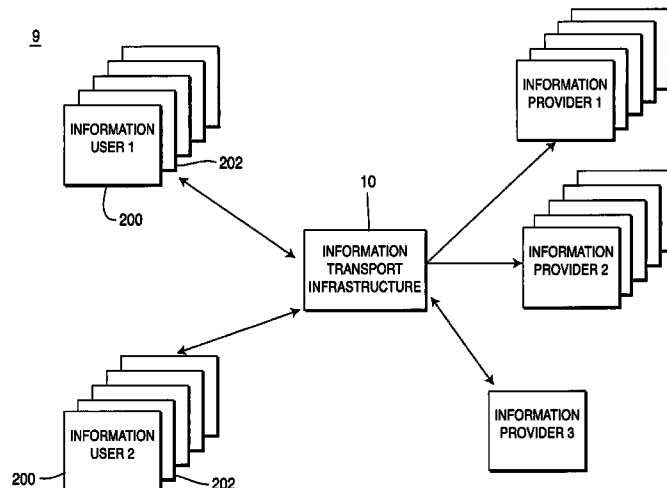
Primary Examiner—Cheryl Lewis

(74) *Attorney, Agent, or Firm*—Sterne Kessler Goldstein &
Fox PLLC

(57) **ABSTRACT**

An Internet interface provided by an internet web server
provides web pages presents in a manner which is tailored to
an individual user. The interface provides web site navigation
data to the user in accordance with personal preferences pro-
vided by the user. A site map program function then provides
web site navigation data to the user, in order to provide a
display depicting portions of the web site visited by the user.

23 Claims, 8 Drawing Sheets



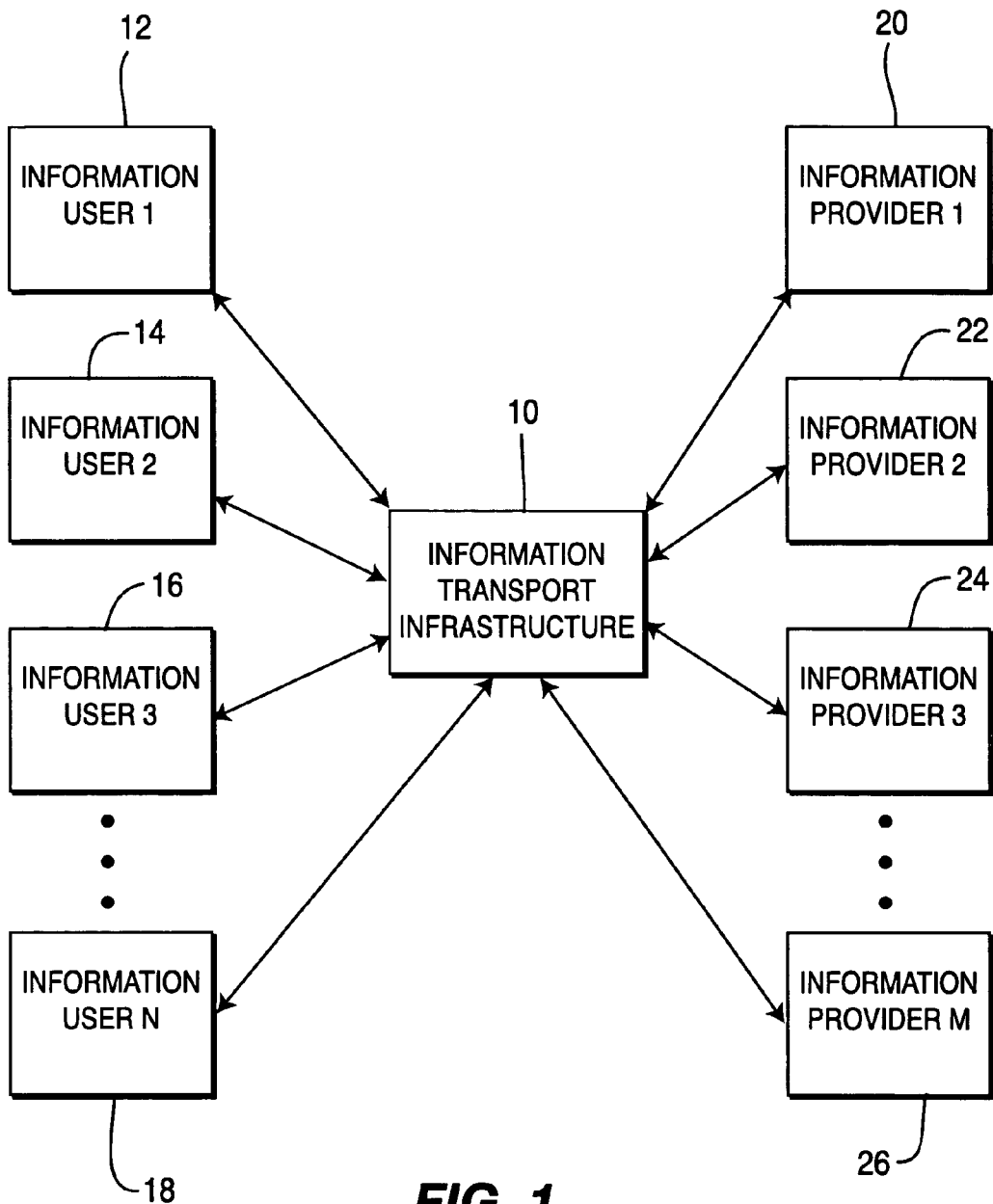


FIG. 1
PRIOR ART

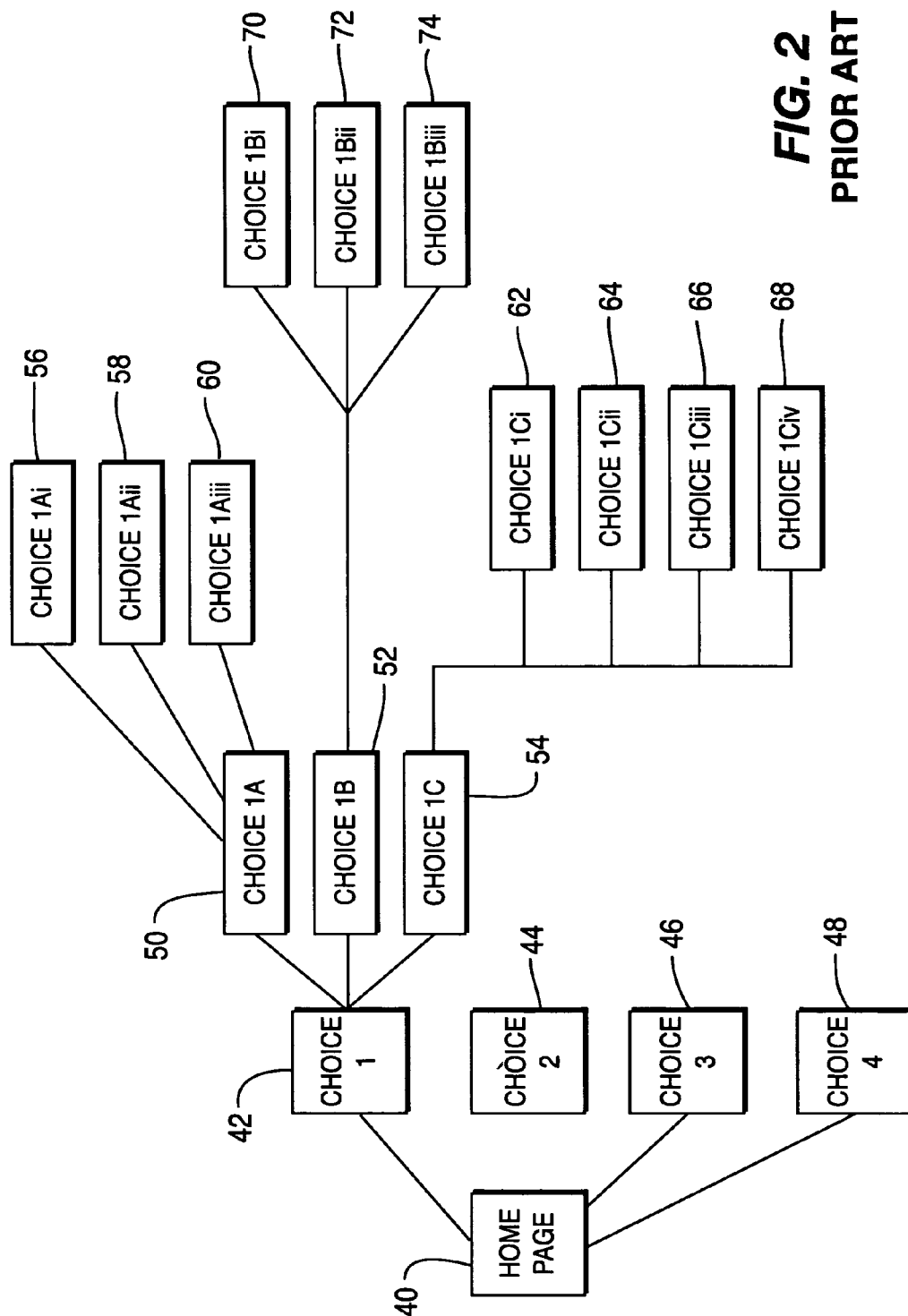
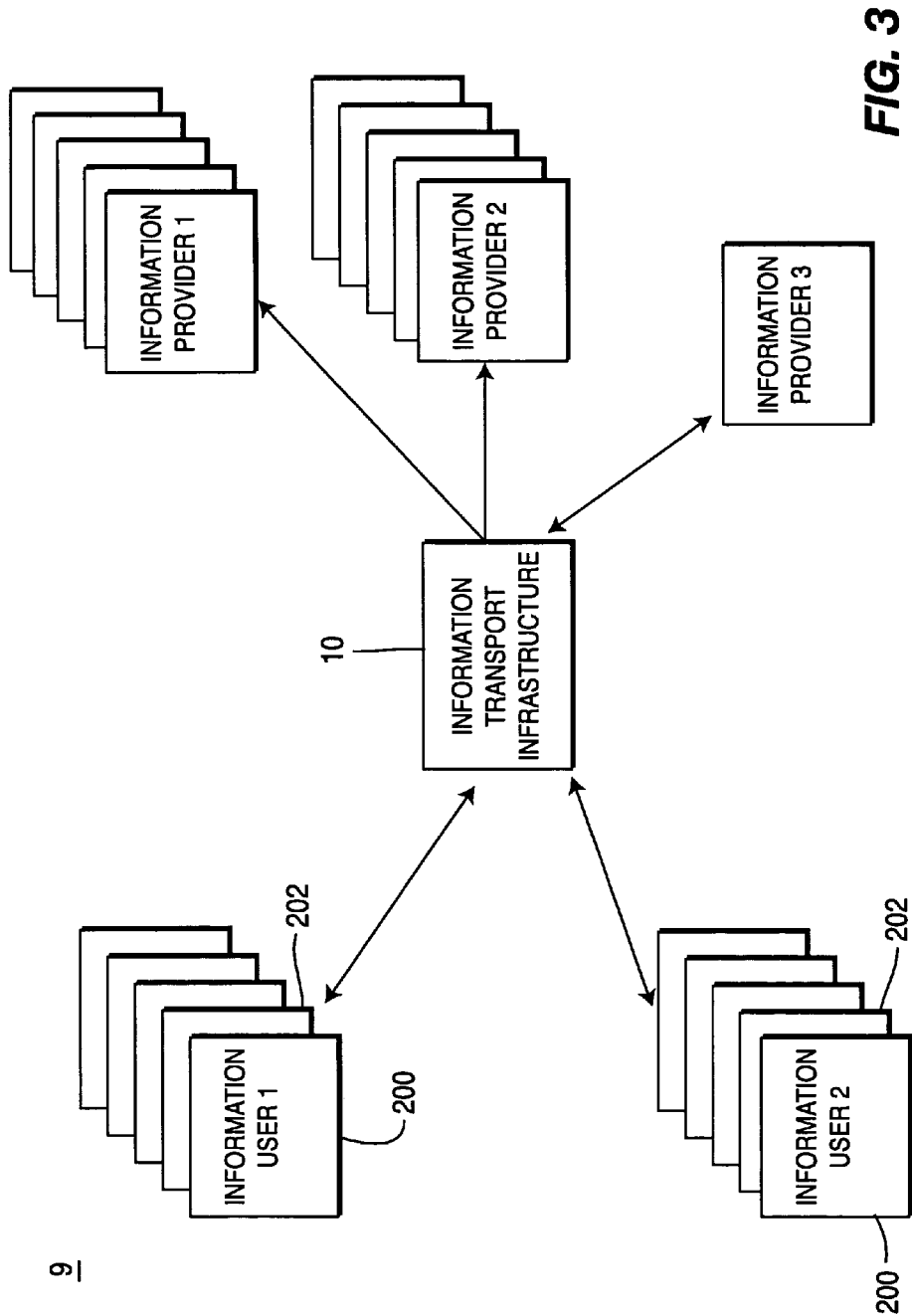


FIG. 2
PRIOR ART



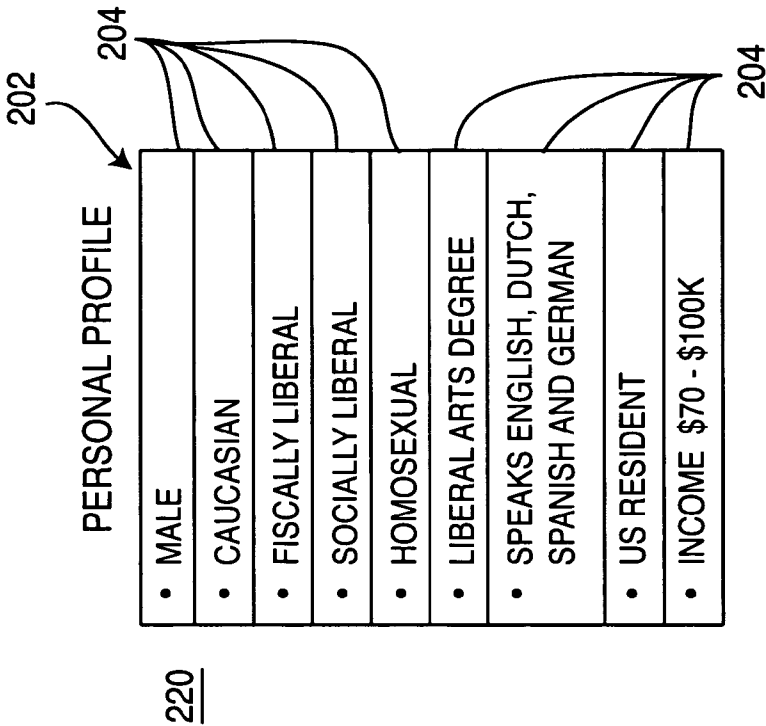


FIG. 4A

FIG. 4B

[illegible]

FIG. 4C

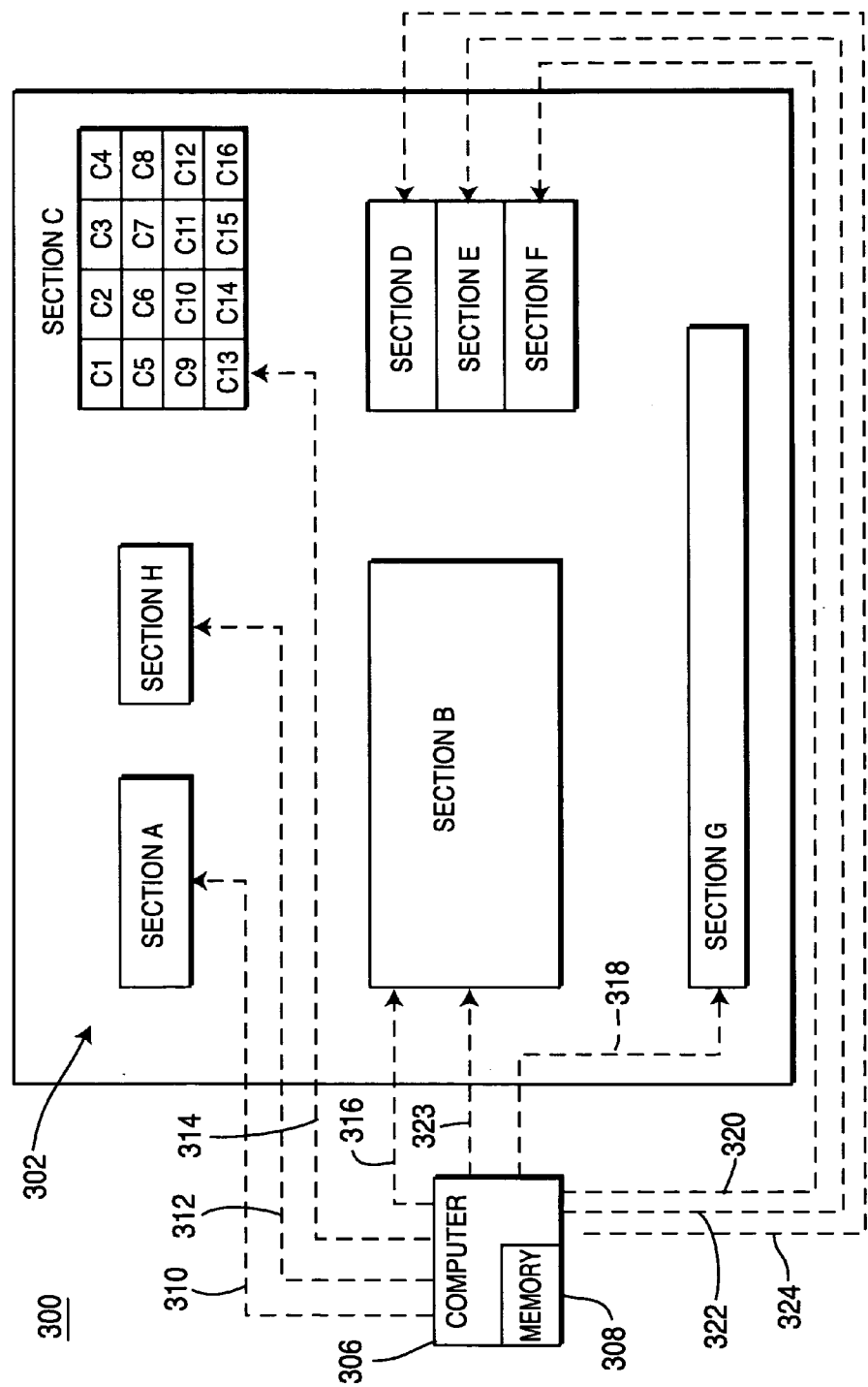


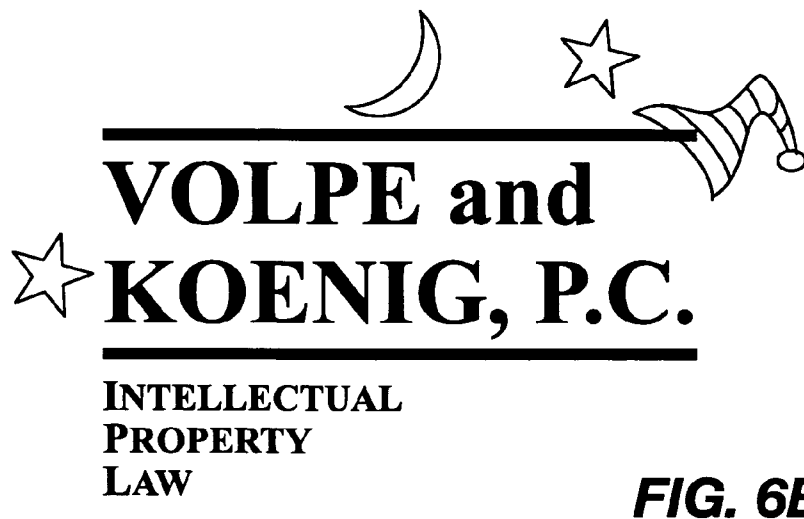
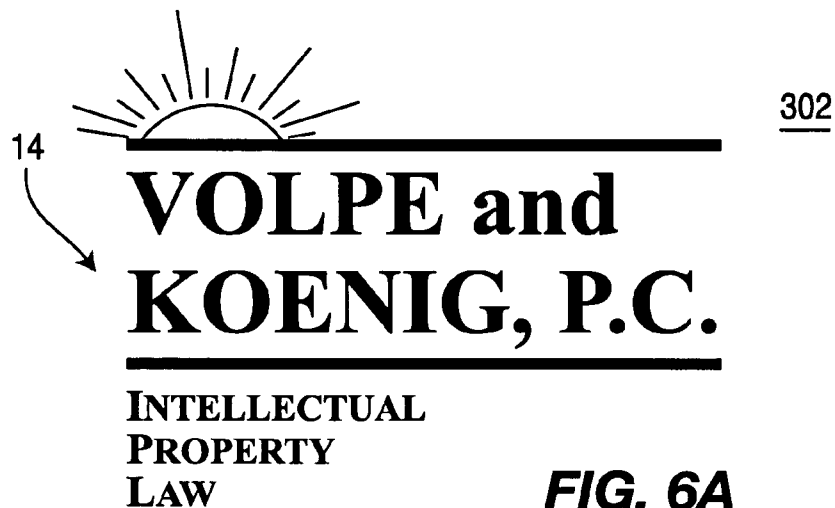
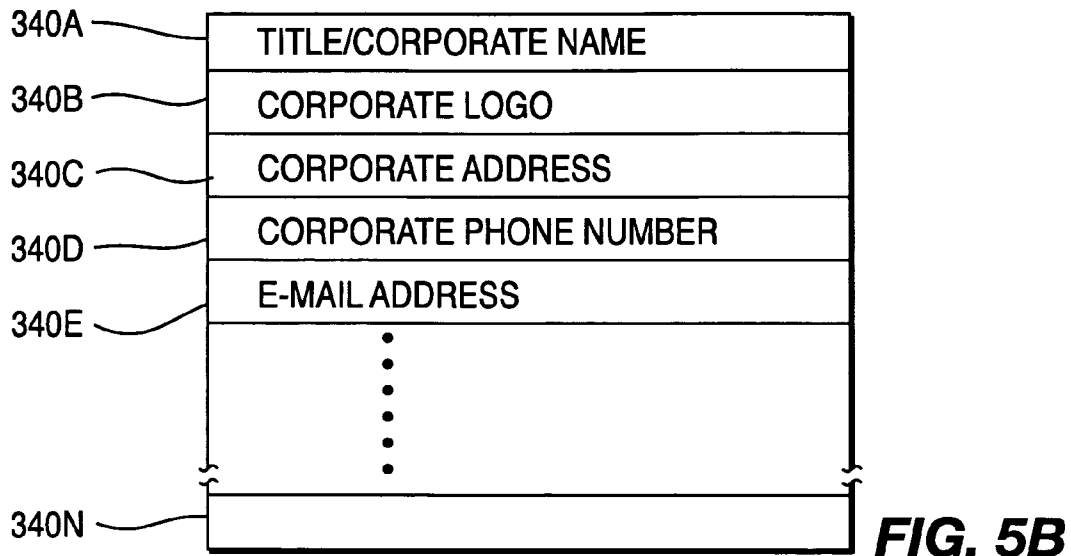
FIG. 5A

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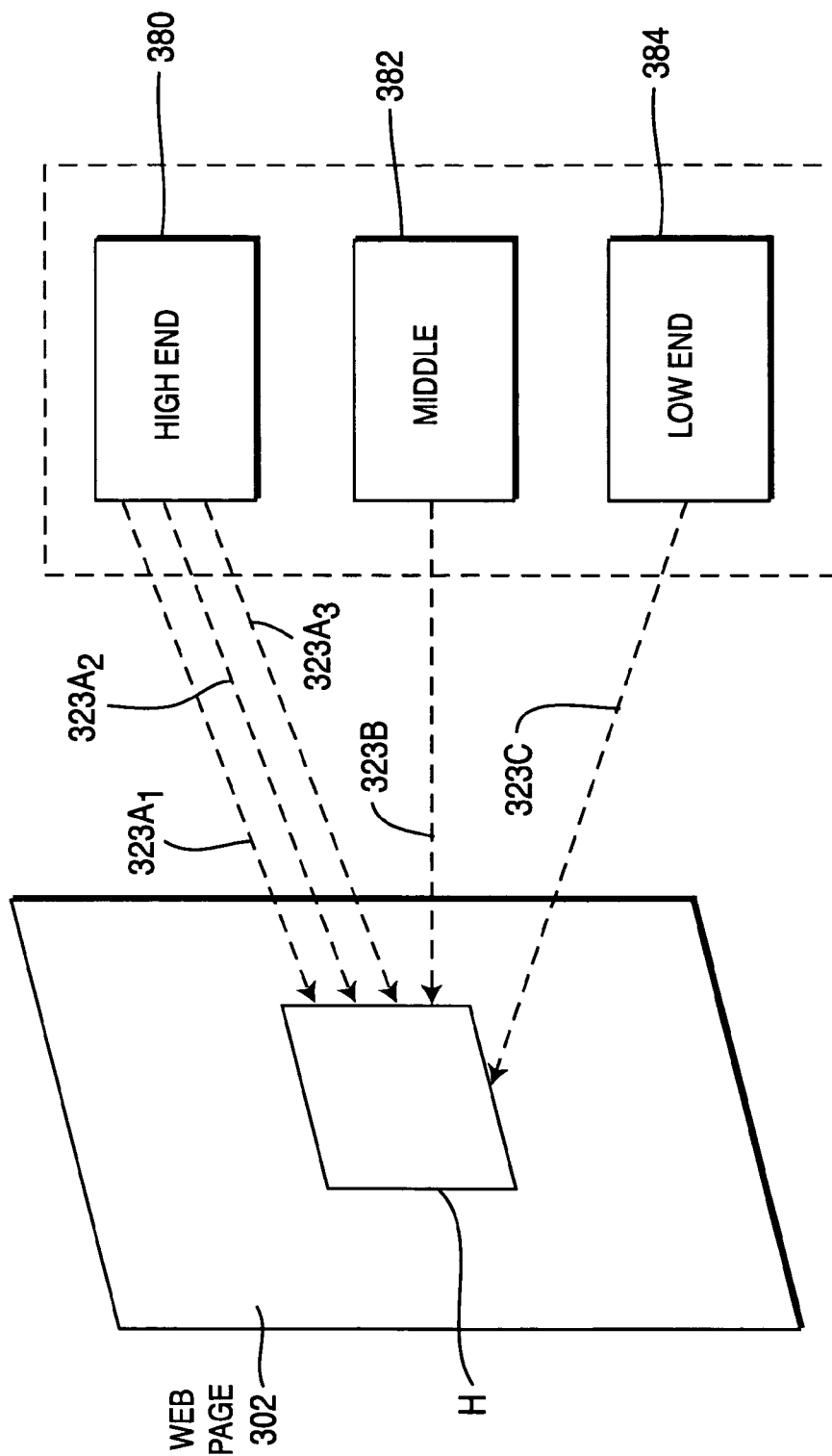


FIG. 7

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ADVANCED INTERNET INTERFACE PROVIDING USER DISPLAY ACCESS OF CUSTOMIZED WEBPAGES

CROSS REFERENCE TO RELATED APPLICATION(S)

This application is a continuation of U.S. patent application Ser. No. 09/318,917, U.S. Pat. No. 6,816,849, filed May 26, 1999, which in turn claims priority from U.S. provisional application No. 60/086,671 filed May 26, 1998, which are incorporated by reference as if fully set forth.

FIELD OF INVENTION

This invention pertains to the global computing network otherwise known as the Internet or the World Wide Web. More particularly, the invention pertains to a system for selectively tailoring information delivered to an Internet user depending upon the particular needs of the user.

BACKGROUND

The Internet is a global computer network that is rapidly changing the landscape of the business community and has begun change the way people perceive themselves as citizens of the global community. By its very nature, the Internet provides a flexible vehicle to deliver information from any point on the globe to any other point on the globe. Providing such a vast amount of information on demand is a feat which is unparalleled in history in both size and scope. However, due to the limitations inherent with computer hardware, modems and telephonic systems, only a small portion of the capabilities of the Internet are utilized today. As the performance of computer hardware and software catches up with the expectations of the Internet-using community, the applications for which the Internet is used will increase tremendously.

Use of the Internet is in its infancy. Much to the chagrin of the Internet-using community, the press constantly features articles and commentary on the Internet which is overly simplistic and misleading. Much of the capabilities of the Internet remain more hype than fact. Since evolution of the Internet is in its rudimentary stages, no one can predict where the frontier will lead.

One of the current problems with the Internet is that inexperienced people in the business community and the user community tend to view the Internet as a natural extension (or slight modification) of the currently existing media. For example, much of the public uses the Internet as a high tech phone book whereby a user can obtain detailed information regarding a company's products, services or other background information regarding a company. A perusal of home pages currently existing on the World Wide Web confirms that home pages are currently a hybrid of the business-to-business Yellow Pages® directory and a television commercial. The home pages are unable to obtain any information regarding the specific Internet users which are contacting the home page nor are they able to deliver information tailored specifically to that user without the user experiencing a tedious "virtual gauntlet" of boring questions that they must answer time and time again for each home page that is accessed. The initial enthusiasm and mystique associated with the Internet will quickly evaporate unless Internet users and the business community begin to utilize the Internet to its fullest potential.

Accordingly, there exists a serious need for delivering useful information to an Internet user that can be depended upon to deliver quality data as reliably as current utilities are delivered

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SUMMARY

The present invention is a system for delivering information from an information provider to an information user that is selectively tailored toward the capabilities of the information provider and the needs of the information user. The system includes an interactive interface which provides a medium for information users to communicate with information providers. More specifically, the system includes means for the information user to tailor the profile of the information user depending upon the needs or desires of the information user. Separate means permit the information provider to view the information user profile and to structure the information seen by the information user in a format that is most suitable to that information user.

The system also enables the information user to operatively tailor their profile on a real time basis. Thus, the information provider may tailor the information provided to the Internet using community depending upon the time of day, business conditions or other factors.

Accordingly, it is an object of the present invention to provide an advanced Internet interface between Internet information users and Internet information providers.

Other objects and advantages will become apparent to those skilled in the art after reading the detailed description of a presently preferred embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of the interface between information users and information providers over the Internet according to the prior art.

FIG. 2 is a block diagram of the web page structures according to the prior art.

FIG. 3 is a block diagram of the interface between information users and information providers over the Internet according to the present invention.

FIGS. 4A-4C are database structures of user information.

FIG. 5A is a block diagram of information provider according to the present invention.

FIG. 5B is a file structure of information identifiers according to the present invention.

FIGS. 6A and 6B are illustrations of web pages according to the present invention.

FIG. 7 is an illustration of a web page structure according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

The preferred embodiment will be described with reference to the drawing figures wherein like numerals represent like elements throughout.

A block diagram of the interface between current information users and information providers over the Internet is shown in FIG. 1. The information transport infrastructure 10 includes all of the infrastructure 10 required to convey information between the plurality of information providers 20, 22, 24, 26 and plurality of information users 12, 14, 16, 18. This transport infrastructure 10 includes, but is not limited to, a wireless or wired public or private telephone system, a local area network (LAN) or a wide area network (WAN) upon which the information users 12, 14, 16, 18 or information providers 20, 22, 24, 26 are resident, the plurality of way stations in between, and all of the computing resources required to deliver the information. It should be recognized that this infrastructure 10 could include the local cable tele-

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vision (CATV) infrastructure, telephone company infrastructure or even the wires provided by the electric company over which information may be transmitted. It should also be recognized that the information may be transmitted by satellite or microwave means and the present example should not be viewed as a specific limitation upon the scope of the present invention.

As shown in FIG. 1, as each information user **12, 14, 16, 18** utilizes the Internet to access one or more information providers **20, 22, 24, 26**, each information provider **20, 22, 24, 26**, such as a Web page, will appear identical to each information user **12, 14, 16, 18**. There is no tailoring of information to each information user **12, 14, 16, 18**. Of course, an information user **12, 14, 16, 18** can run the aforementioned “virtual gauntlet” of questions to obtain the information they require, but this process is extremely frustrating and time consuming. Additionally, much of the information requested from the information user **12, 14, 16, 18** by an information provider **20, 22, 24, 26** is standard information such as an information user’s name, address and other personal or financial information.

Most Web pages are structured as a logical tree and branch format as shown in FIG. 2. First, the information user **12, 14, 16, 18** accesses the desired home page **40**. As the information user **12, 14, 16, 18** inputs information and makes selections, the information user **12, 14, 16, 18** gains access to additional tiers of information. For example, if the first choice **42** is selected by information user **12, 14, 16, 18** on the home page **40**, the information user **12, 14, 16, 18** will be shown a second tier of choices **50, 52, 54**. Selection of the first choice **50** from this second tier of choices **50, 52, 54** will provide access to a third tier of information with three additional choices **56, 58, 60**. In this manner, the Web page **40** will provide incremental additional information in response to the selections made by the information user **12, 14, 16, 18**. Ultimately, the information user **12, 14, 16, 18** will acquire the information they need after one or more attempts or they will give up in frustration and access a competitor’s home page or make a telephone call directly to the company.

The system **9** of the present invention for providing an advanced, selectively tailored Internet interface is shown in FIG. 3. As shown, both the information users **12, 14, 16, 18** and the information providers **20, 22, 24, 26** are selectable and changeable entities; in contrast to the static entities that presently comprise the Internet. As shown, the information user **12, 14, 16, 18** may tailor their information user profile as needed to acquire specific information. In this manner, one might even view the information user **12, 14, 16, 18** as having “multiple personalities.”

As shown in FIG. 4A, for example, the information user **12, 14, 16, 18** may have a business profile **200** which is specifically tailored toward the information user’s **12, 14, 16, 18** business needs. The profile **200** comprises a file **202** having a plurality of fields **204** which hold data that the information user **12, 14, 16, 18** is male, Caucasian, fiscally conservative, politically conservative, is employed by a Fortune 500 company, is employed in a sales position, has an undergraduate degree in economics, speaks English and is a U.S. resident.

Alternatively, as shown in FIG. 4B, the information user’s **12, 14, 16, 18** profile **220** for accessing the Internet for pleasure comprises a file **202** having a plurality of fields **204** which hold data that the information user **12, 14, 16, 18** is a male, Caucasian, college graduate, has a liberal arts degree, homosexual, speaks several languages, has an annual income of \$70,000-\$100,000 socially liberal and fiscally liberal. It should be noted that a data file **250** having a standard format as shown in FIG. 4C may be adopted by all information users

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12, 14, 16, 18 and information providers **20, 22, 24, 26** on the Internet. In this manner, a user may simply check or fill-in any of those user profile attributes **252A-252N** that are applicable. As shown, there are almost an unlimited number of columns which may be created to identify all of a user’s attributes **252**. Additionally, a plurality of profiles **260A-260N** may be created by the user. For example, the user may create a business profile **260A** for all of his or her business trades, and then create several personal profiles **260B, 260C** for their personal traits. This profile is stored in computer memory (not shown) and transferred to an information provider **20, 22, 24, 26** when a Web page is accessed. These multiple profiles **252A-252N** are not unlike the multiple personalities that currently exist in every day life for many individuals. In accordance with the teachings of the present invention, the profiles **252A-252N** are selectively tailored to the needs of the information user **12, 14, 16, 18** at a particular time. Although several current Web pages permit a user to create a profile for that particular Web page, the information user **12, 14, 16, 18** must create this rudimentary profile each time they access the Web page. The present invention has the advantage that a detailed standard profile **252** may be created having an tremendous amount of detail and selectivity then this profile **252** may be utilized with any information provider that accepts the standard format.

Referring to FIG. 5A, an information provider **300** in accordance with the present invention is shown. The information provider **300** is a virtual panoply of information which is placed in a mosaic most pleasing to the information users **12, 14, 16, 18**. The information on the Web page **302** may be thought of as a mosaic of electronic tiles A, B, C1-C16, D, E, F, G each of which have a portion of the Web page **302**. Each tile A-G is a result of a separate data stream **310-322** which individually updates the tiles A-G. The tiles A-G may change, and the format and location of the data streams A-G may change as a result of the change in the data streams. As shown, the tiles A-G may be changed on a yearly, quarterly, daily, hourly or constant basis. Additionally, as shown, the entire Web page **302** may be changed, or only one or more portions of the Web page **302** may be changed as will be explained in detail hereinafter.

Each data stream **310-322** has a set of information identifiers for identifying the type of information provided by the data stream **310-322**. For example, the data stream **310** which supplies section A may carry general information regarding the Web page’s owner such as a corporation. The file structure of the information identifiers **340A-340N** is shown in FIG. 5B. Among the plurality of other data streams **312-324** may exist intellectual property information such as a company’s copyright and trademark notifications (section G) **318**; directions on how to reach the corporation’s headquarters (section F) **320**, sales or service locations (section E) **322**; and a plurality of other information related to a company’s products or services (sections B, C, D and H) **323, 314, 324, 312**. It should be apparent even to those with rudimentary skills in the art that the foregoing discussion regarding the data streams **310-324** involving a company’s products or services may apply equally to any of the other data streams that are set forth on a Web page **300**.

The tailoring of a company’s information or services will now be explained in detail hereinafter. The three data streams that will be selected are a company’s logo (section H) **312**, a company’s product line (section D) **324** and the description of the product line (section B) **323**. Although some of the data streams may be individually linked, such as a product and the

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description of the product and the price of the product; they will be treated separately for simplification of the explanation.

Tailoring of the data stream 312 of the company's logo will now be described. As shown in FIG. 6, this or any other data stream 310-324 may be tailored toward the time of day. This will give the information user 12, 14, 16, 18 the pleasing experience that the Web page 302 is "fresh." For example as shown in FIG. 6A, the logo H may be profiled by a rising sun during the early morning hours, a bright sun during the day and a setting sun in the late afternoon and early evening hours. The moon and stars may come out after nightfall, as shown in FIG. 6B, and would be an indication of the actual time of day. Although this may appear as a gimmick, the information user 12, 14, 16, 18 may access the Web page 302 all day long without actually seeing the same Web page 302 twice. It should be recognized that other portions of the Web page 302 may be likewise tailored. This could also be a powerful marketing concept whereby the logo might change color for a certain period of time indicating that the company's products are on sale, the stock is doing well or that the company is hiring. Any aspect of the logo H may be changed to provide useful information to the information user 12, 14, 16, 18. Additionally depending upon the profile 252 of the information the users 12, 14, 16, 18, a Japanese resident accessing a Web page may view a "sun rising" page, while simultaneously a U.S. resident will see the moon, stars and nightcap. The profile 252 will be downloaded to the information provider 20, 22, 24, 26.

Referring back to FIG. 5A, the data stream 323 concerning a company's products B will now be described in detail hereinafter. This data stream 323 is shown in greater detail in FIG. 7. As shown, the data stream 323 may comprise a plurality of separate data streams 323A-323C which change on a basis set by the information provider 20, 22, 24, 26. The first data stream 323A, for example, pertains to a company's "high end" line of products 380, the second data stream 323B may comprise a company's "middle end" line of products 382, and the third data stream 323C may comprise the company's "low end" line of products 384.

Each particular data stream 323A-323C may comprise the same products throughout the day as shown in FIG. 7, or may change periodically throughout the day, or based upon the time of day. For example, the high end line of products 380 may relate to gourmet coffee; the middle end line of products may relate to your average "cup of joe" 382; and the third data stream 323C may relate to your "get it hot" coffee line for people who are looking only for a caffeine intake and are willing to "choke down" any sludge 384. These three lines of products 380-384 may be displayed until approximately 11:00 a.m. Thereafter, three new high, middle and low end lines of products 380-384 are described such as a company's soda or tea beverage line. In the evening, the three data streams 323A-323C may again change to liquors used for after dinner drinks.

Referring to the high end product description data stream 323A, this data stream 323A may be selectively tailored in a different manner as will be described in detail hereinafter. For example, the data stream 323A may actually comprise three separate lines of data 323A1, 323A2, 323A3, one tailored towards very conservative, serious or older individuals 323A1, one tailored towards "no frills" type people who seek only raw data regarding a product, such as health conscious individuals 323A2; and a third data stream that is playful, light and funny for the common Internet surfer 323A3. Accordingly, going along with the present example the high end line of coffee products may be described in the conservative data stream as "a succulent blend of Columbian and Arabica beans which are blended for an exquisite taste and are dry roasted to relieve the coffee of any bitterness." This type

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of explanation is specifically tailored to "high income and high end serious and conservative individuals who are looking for a premium product." The description of the high end product for the "data seeking" type of individual may read as follows "a blend of 60% Arabica, 40% Columbian coffee beans is blended and freeze dried at minus 60 degrees Celsius. A six ounce cup contains 100 calories, zero grams of fat . . ." For those generation X'ers who are accustomed to a "loud" advertising style, the following will suffice: "Yo! This cup of joe will be blow you away. Be the first of your friends to drink this liquid gold and have the bragging rights that you, truly, have it together." As can be seen by these differing descriptions, a conservative individual would clearly be turned off by the in-your-face manner of the third data stream. Likewise, younger individuals would most likely be bored by the first description. In this manner, a company can cater to all needs without having to boil down and sanitize a particular Web page to meet a majority market, while alienating minorities.

The most beneficial aspect of the present invention which permits a company to tailor the delivery of information to a specific user without requiring the user to input a lot of mundane and unnecessary information will now be described in detail. When an individual accesses a particular Web page, the individual's current profile that the individual has selected, (for example 252A), is automatically downloaded to that Web page. The Web page manager matches the user's profile to the information identifier's 340A-340N. Depending upon the number of matches, the manager selects the data stream that corresponds most closely with the profile 252A. In this manner, the Web page manager tailors the Web page to the specific individual based on the profile. The Web page manager selects most appropriate data streams for the current information user 12, 14, 16, 18 depending upon the currently available data streams and the profile of the individual. Although there may be a standard Internet protocol developed which may require an information user 12, 14, 16, 18 to input their profile in a standard format such as 100 different sorting aspects, this is not required. The Web page manager will use those downloaded portions and will tailor the Web page accordingly.

This system allows the information provider to selectively provide information to the information user without the information user's knowledge or without irking the information user by telling them they need a password, or they need to be a member. It permits those members to get to the information seamlessly. For example, low end users may receive coupons, high end users may receive product warranty information. Another feature of the present invention is that it includes the ability to access a web site and map the entire web site. For example, as shown in FIG. 2, when an information user selects choice 1 Ai, the person does not know what exists in choice 1 Ci until they get there. Often, the person forgets the other choices available. The present invention may either map the route which the person has gone and provide a tree and branch diagram as a picture-in-picture window within the screen or may map the entire web site upon accessing the Web page. For example, when a person access a web site, the web site navigator resident within the information user's browser may quickly go in and access every page of the web site. It will then summarize, and categorize the information in a concise manner and provide a branch and tree type map.

Although the invention has been described in part by making detailed reference to certain specific embodiments, such details is intended to be instructive rather than restrictive. It will be appreciated by those skilled in the art that many variations may be made in the structure and mode of operation without departing from the spirit and scope of the invention as disclosed in the teachings herein.

Although the features and elements of the present invention are described in the preferred embodiments in particular

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combinations, each feature or element can be used alone (without the other features and elements of the preferred embodiments) or in various combinations with or without other features and elements of the present invention.

Hereafter, a wireless transmit/receive unit (WTRU) includes but is not limited to a user equipment, mobile station, fixed or mobile subscriber unit, pager, or any other type of device capable of operating in a wireless environment. When referred to hereafter, a base station includes but is not limited to a Node-B, site controller, access point or any other type of interfacing device in a wireless environment.

What is claimed is:

1. A system for providing web pages accessed from a web site in a manner which presents the web pages tailored to an individual user, comprising:

an interactive interface configured to provide dynamic web site navigation data to the user, the interactive interface comprising:

a display depicting portions of the web site visited by the user as a function of the web site navigation data; and
a display depicting portions of the web site visited by the user as a function of the user's personal characteristics.

2. The system of claim 1, wherein the display depicting portions of the web site visited by the user includes a map depicting a route of web pages visited by the user.

3. The system of claim 1, wherein the display depicting portions of the web site visited by the user includes a map of web pages visited by the user, presented in a tree and branch diagram in combination with at least a portion of the entire web site accessible by the user.

4. The system of claim 1, wherein the display depicting portions of the web site visited by the user includes an indication of web pages visited by the user, presented as a picture-in-picture window within the display in combination with at least a portion of the entire web site accessible by the user.

5. The system of claim 1, wherein the interactive interface: includes a data file generated from user activity based on user data transmitted in response in part to user selections of a plurality of user-selectable fields, each field describing a personal characteristic of the user; and is configured to automatically transmit data corresponding to the user selections upon initially accessing the web pages, wherein an analysis of the user selections provides a selection of a plurality of discrete web pages specifically tailored to the user; and the display depicting portions of the web site visited by the user includes data derived from at least one of the user data and user activity based on the user data.

6. The system of claim 1, wherein the interactive interface is further configured to generate a site map according to at least one of a route which the user has taken or a plurality of discrete sections tailored for the user, thereby providing a diagram in accordance with the user selections.

7. A method of generating a web page comprising: generating a plurality of data streams, wherein each data stream is associated with a particular portion of the web page, and wherein each data stream is stored in a computer memory; and changing at least one of the particular portions of the web page as a function of time.

8. The method of claim 7, wherein one of the particular portions presents a company logo, wherein the company logo is profiled by different symbols depending upon the time of day.

9. The method of claim 7, wherein the different symbols indicate the time of day.

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10. The method of claim 7, wherein at least a part of one of the particular portions presents information associated with a company, wherein the at least part of one of the particular portions changes color for a certain period of time to indicate an event or condition associated with the company.

11. The method of claim 7, wherein the event or condition is associated with the price of products sold by the company.

12. The method of claim 7, wherein the event or condition is associated with the type of products sold by the company.

13. The method of claim 7, wherein the event or condition is associated with the price of stock associated with the company.

14. The method of claim 7, wherein the event or condition is associated with employment opportunities offered by the company.

15. The method of claim 7, wherein the particular portions present different products at different times during each day.

16. A method comprising:

receiving data which defines a plurality of user profile attributes in each of a plurality of user profiles; storing the plurality of user profiles, each user profile comprising data descriptive of a user;

in response to a request from an information provider, transferring data from a specified user profile to the information provider; and

providing dynamic web site navigation data via an interactive interface, the interactive interface comprising:

a display depicting portions of a web site visited by the user as a function of web site navigation data; and

a display depicting portions of a web site visited by the user as a function of the plurality of fields having data descriptive of a user.

17. The method of claim 16, further comprising: transferring the stored plurality of user profiles to an information provider when a web page is accessed.

18. The method of claim 16, wherein data from the plurality of profiles are transferred in a standardized form.

19. The method of claim 16, wherein the plurality of user profiles include at least one of a business profile, a personal profile, and a family profile.

20. The method of claim 16, wherein the profile attributes include at least one of gender, race, income, and education.

21. A method comprising:

receiving data from a user profile associated with a user; in response to a request associated with the user, sending a data stream that is selected based at least in part on the received data from the user profile; and

displaying the data stream via an interactive interface, the interactive interface comprising:

a display depicting portions of a web site visited by the user as a function of web site navigation data; and

a display depicting portions of a web site visited by the user based at least in part on the received data from the user profile.

22. The method of claim 21, further comprising:

selectively offering a coupon to the user associated with the request, wherein the coupon is based at least in part on the received data from the user profile.

23. The method of claim 21, further comprising:

selectively presenting product warranty information to the user associated with the request, wherein the product warranty information is based at least in part on the received data from the user profile.

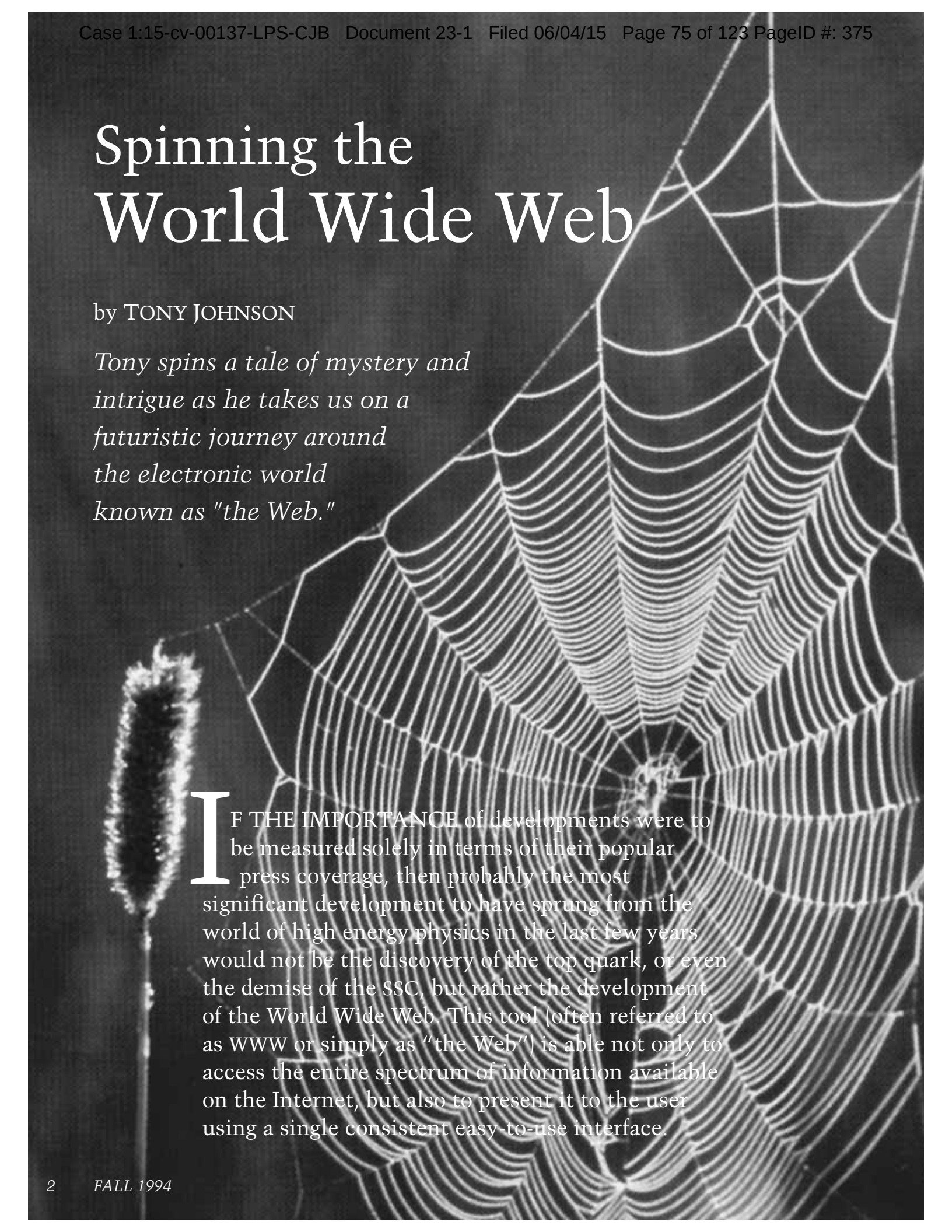
* * * * *

EXHIBIT N

Spinning the World Wide Web

by TONY JOHNSON

Tony spins a tale of mystery and intrigue as he takes us on a futuristic journey around the electronic world known as "the Web."



IF THE IMPORTANCE of developments were to be measured solely in terms of their popular press coverage, then probably the most significant development to have sprung from the world of high energy physics in the last few years would not be the discovery of the top quark, or even the demise of the SSC, but rather the development of the World Wide Web. This tool (often referred to as WWW or simply as "the Web") is able not only to access the entire spectrum of information available on the Internet, but also to present it to the user using a single consistent easy-to-use interface.

This has opened up the network, previously viewed as the home of computer hackers (and crazed scientists), to a new audience, leading to speculation that the Internet could be the precursor to the much talked about "Information Super Highway."

The ideas behind the World-Wide Web were formulated at CERN in 1989, leading to a proposal submitted in November 1990 by Tim Berners-Lee and Robert Cailliau for a "universal hypertext system." In the four years since the original proposal the growth of the World Wide Web has been phenomenal, expanding well beyond the high energy physics community into other academic disciplines, into the world of commerce, and even into people's homes.

This article describes the basic concepts behind the World Wide Web, traces its development over the past four years with examples of its use both inside and outside of the high energy physics community, and goes on to describe some of the extensions under development as part of the World Wide Web project.

WORLD WIDE WEB CONCEPTS

The World Wide Web is designed around two key concepts: hypertext documents and network-based information retrieval. Hypertext documents are simple documents in which words or phrases act as links to other documents. Typically hypertext documents are presented to the user with text that can act as a link highlighted in some way, and the user is able to access the linked documents by clicking with a mouse on the highlighted areas.

The World Wide Web extends the well-established concept of hypertext by making it possible for the destination document to be located on a completely different computer from the source document, either one located anywhere on the network. This was made possible by exploiting the existing capabilities of the Internet, a world-wide network of interconnected computers developed over the preceding 20 years, to establish a rapid connection to any named computer on the network.

To achieve this, the World Wide Web uses a client-server architecture. A user who wants to access information runs a World Wide Web client (sometimes referred to as a browser) on his local computer. The client fetches documents from remote network nodes by connecting to a server on that node and requesting the document to be retrieved. A document typically can be requested and fetched in less than a second, even when it resides on the other side of the world from the requester. (Or at least it could be in the early days of the Web; one of the drawbacks of the enormous success of the Web is that sometimes transactions are not as fast now as they were in the earlier, less heavily trafficked days. One of the challenges of the Web's future is to overcome these scaling problems.)

The client-server model offers advantages to both the information provider and the consumer. The information provider is able to keep control of the documents he maintains by keeping them on his own computer. Furthermore the documents can be maintained by the information provider in any form, so

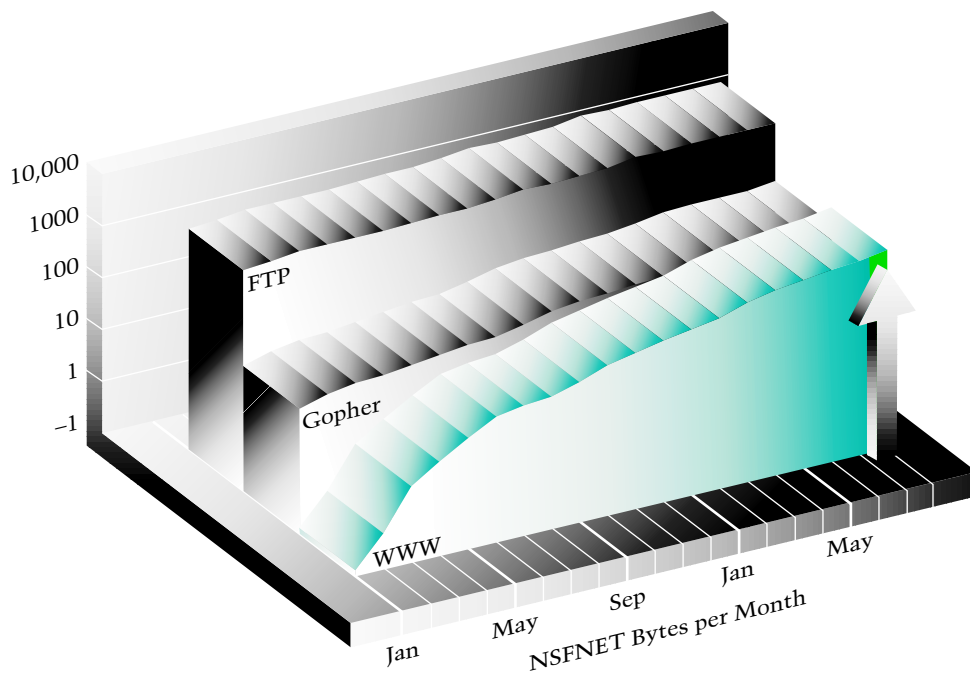
long as they can be transformed by the server software into the format the client software expects to receive. This model can naturally be extended to allow documents to be dynamically created in response to a request from users, for example by querying a database and translating the result of the query into a hypertext document.

From the information consumer's perspective, all the documents on the Web are presented in the form of hypertext. The consumer remains blissfully ignorant of how the documents are maintained by the information provider and, unless he really wants to know, from where the documents are being accessed.

GROWTH OF THE WEB

The initial implementation of the Web client at CERN was for the NeXT platform. This earliest browser was able to display documents using multiple fonts and styles and was even able to edit documents, but access was limited to users fortunate enough to have a NeXT box on their desks. This was followed by development of the CERN "linemode" browser, which could run on many platforms but which displayed its output only on character-based terminals. These early browsers were followed by the first browsers designed for X-Windows, Viola developed at the University of California, Berkeley, and Midas developed at the Stanford Linear Accelerator Center.

Initially the growth of the World Wide Web was relatively slow. By the end of 1992 there were about 50 hypertext transfer protocol (HTTP) servers. At about the same time,



The dramatic increase of World Wide Web usage over the past year and a half is illustrated. While the growth rate is phenomenal, more traditional uses of the network such as file transfer and e-mail still dominate.

Gopher, a somewhat similar information retrieval tool to WWW but based on menus and plain text documents rather than hypertext, was expanding rapidly with several hundred servers.

During 1993 the situation changed dramatically, driven in large part by the development of the Mosaic client by a talented and extremely enthusiastic group at the National Center for Supercomputer Applications (NCSA) at the University of Illinois in Champaign-Urbana. The Mosaic client for World Wide Web was originally developed for X-Windows under Unix, with subsequent versions released for both the Macintosh and PC platforms.

The Mosaic client software added a few new key features to the World Wide Web: the ability to display embedded images within documents, enabling authors to greatly enhance the aesthetics of their documents; the ability to incorporate links to simple multimedia items such as

short movie and sound clips; and the ability to display forms. Forms greatly enhanced the original search mechanism built into WWW by allowing documents to contain fields that the user could fill in, or select from a list of choices, before clicking on a link to request further information. The introduction of forms to the WWW opened a new arena of applications in which the World Wide Web acts not only as a way of viewing static documents, but also as a way of interacting with the information in a simple but flexible manner, enabling the design of Web-based graphical interfaces to databases and similar applications.

During 1993 the usage of WWW began to grow exponentially. As new people discovered the Web they often became information providers themselves, and as more information became available new users were attracted to the Web. The graph on this page shows the growth in World Wide Web (or more accurately HTTP) traffic over the National Science Foundation backbone since early 1993, in comparison to Gopher and FTP traffic during the same period (FTP—file-transfer protocol—was one of the earliest protocols developed

for the Internet, and is still the most widely used for transferring large files). While the growth in WWW traffic is enormous, it is worth noting that it is still not the dominant protocol; in fact, FTP, e-mail and NNTP (Network News transfer protocol) traffic are all substantially larger.

Owing to the distributed management of the Internet and the World Wide Web, it is very difficult to obtain hard numbers about the size of the Web or the number of users. (The number of users on the Internet, often estimated to be in the tens of millions, is itself a contentious issue, with some estimates claiming this number to be an overestimate by perhaps as much as an order of magnitude.) One illustration of the size of the Web came in early 1994 when a server was set up to provide information and up-to-the-minute results from the Winter Olympics being held in Lillehammer, Norway. The implementation of the server wasn't started until the day before the Olympics were scheduled to start, but two weeks later the server (together with a hastily arranged mirror server in the United States) had been accessed 1.3 million times, by users on somewhere between 20,000 and 30,000 different computers in 42 countries.

NCSA now estimates that more than a million copies of the Mosaic software have been taken from their distribution site, and approximate counts of the number of HTTP servers indicates there are more than 3000 servers currently operating (Stanford University alone has over 40 HTTP servers, not including one for the Stanford Shopping Center!).

HISTORY OF THE WORLD WIDE WEB

As the size of the Web has increased, so has the interest in the WWW from outside the academic community. One of the first companies to take an active interest in the World Wide Web was the publisher O'Reilly and Associates. For over a year they have provided an online service, the Global Network Navigator, using the World Wide Web. This includes regularly published articles about developments in the Internet, the "Whole Internet Catalog," an index of information available on the Web, a travel section, business section, and even daily online comics and advertising, all illustrated with professionally designed icons.

The Global Network Navigator is now only one of many examples of commercial publishers making information available on the Web, including a number of print magazines and newspapers which are available partially or in their entirety on the Web.

Another interesting example of commercial use of the World Wide Web is the CommerceNet organization. This organization, based in northern California and funded by a consortium of large high technology companies with matching funds of \$6 million from the U.S. government's Technology Reinvestment Project, aims to actively encourage the development of commerce on the Internet using WWW as one of its primary enabling technologies. CommerceNet aims to encourage companies to do business on the Internet by making catalogs available and accepting electronic orders, and also by encouraging electronic collaboration between companies.

One specific way that CommerceNet is enhancing WWW is by the proposed introduction of a "secure-HTTP," which would enable encrypted transactions between clients and servers. This would ensure privacy, but perhaps more interestingly would also enable the use of digital signatures, effectively ensuring that when you fill in an order form on the Internet and submit it, it really goes to the company you believe you are ordering from (and only them), and that they know when they receive the order that it really came from you (and can prove it at a later date if necessary). This mechanism also begins to address a problem of great interest to commercial publishers—that of billing for information accessed through the Web. CommerceNet has ambitious plans to incorporate thousands of member companies in the first year or two, primarily in Northern California, but eventually to expand towards the much broader horizons of the Internet.

USES OF WORLD WIDE WEB IN HIGH ENERGY PHYSICS

While the Web has spread far from its original HEP roots, it remains an extremely useful tool for disseminating information within the widely distributed international high energy physics community. One example of the use of World Wide Web within HEP is the access provided to the SPIRES databases at SLAC, a set of databases covering a wide range of topics of relevance to HEP such as experiments, institutes, publications, and particle data.

March 1989

First proposal written at CERN by Tim Berners-Lee.

October 1990

Tim Berners-Lee and Robert Cailliau submit revised proposal at CERN.

November 1990

First prototype developed at CERN for the NeXT.

March 1991

Prototype linemode browser available at CERN.

January 1991

First HTTP servers outside of CERN set up including servers at SLAC and NIKHEF.

July 1992

Viola browser for X-windows developed by P. Wei at Berkeley.

November 1992

Midas browser (developed at SLAC) available for X-windows.

January 1993

Around 50 known HTTP servers.

August 1993

O'Reilly hosts first WWW Wizards Workshop in Cambridge, Mass. Approximately 40 attend.

February 1993

NCSA releases first alpha version of "Mosaic for X."

September 1993

NCSA releases working versions of Mosaic browser for X-windows, PC/Windows and Macintosh platforms.

October 1993

Over 500 known HTTP servers.

December 1993

John Markov writes a page and a half on WWW and Mosaic in the New York Times business section. Guardian (UK) publishes a page on WWW.

May 1994

First International WWW Conference, CERN, Geneva, Switzerland. Approximately 400 attend.

June 1994

Over 1500 registered HTTP servers.

July 1994

MIT/CERN agreement to start WWW Organization.

October 1994

Second International WWW Conference, Chicago, Illinois, with over 1500 attendees.

The largest of the SPIRES databases is the HEP preprints database, containing over 300,000 entries. In 1990 the only way to access the SPIRES databases was by logging in to the IBM/VM system at SLAC where the database resides, or by using the QSPIRES interface which could work only from remote BITNET nodes. In either case to access information you had to have at least a rudimentary knowledge of the somewhat esoteric SPIRES query language.

Since 1990, the introduction of the World Wide Web, coupled with the widespread adoption of Bulletin Boards as the primary means of distributing computer-readable versions of HEP preprints, has revolutionized the ease of access and usefulness of the information in the SPIRES databases.

The SPIRES WWW server was one of the very first WWW servers set up outside of CERN and one of the first to illustrate the power of interfacing WWW to an existing database, a task greatly simplified by WWW's distributed client-server design. Using this interface it is now possible to look up papers within the database without any knowledge of the SPIRES query language, using simple fill-out forms (for SPIRES aficionados it is possible to use the SPIRES query language through the Web too). Access to more advanced features of SPIRES, such as obtaining citation indexes, can also be performed by clicking on hypertext links. Since the access to the database is through WWW it can be viewed from anywhere on the Internet.

In addition, by linking the entries in the SPIRES databases to the computer-readable papers submitted

to electronic Bulletin Boards at Los Alamos and elsewhere, it is possible to follow hypertext links from the database search results to access either the abstract of a particular paper, or the full text of the paper, which can then be viewed online or sent to a nearby printer.

The WWW interface to SPIRES has now been extended to cover other databases including experiments in HEP, conferences, software, institutions, and information from the Lawrence Berkeley Laboratory Particle Data Group. There are now over 9000 publications available with full text, and more than 40,000 accesses per week to the SPIRES databases through WWW.

Another area in which WWW is ideally suited to HEP is in providing communication within large collaborations whose members are now commonly spread around the world. Most HEP experiments and laboratories today maintain Web documents that describe both their mission and results, aimed at readers from outside the HEP field, as well as detailed information about the experiment designed to keep collaborators up-to-date with data-taking, analysis and software changes.

In addition large HEP collaborations provide an ideal environment for trying the more interactive features of WWW available now, as well as those to be introduced in the future. An example is the data monitoring system set up by the SLD collaboration at SLAC. The facility uses WWW forms to provide interactive access to databases containing up-to-date information on the performance of the detector and the event filtering and reconstruction software.





Information can be extracted from the databases and used to produce plots of relevant data as well as displays of reconstructed events. Using these tools collaborators at remote institutes can be directly involved in monitoring the performance of the experiment on a day-by-day basis.

FUTURE DEVELOPMENTS

The size of the Web has increased by several orders of magnitude over the last two years, producing a number of scaling problems. One of the most obvious is the problem of discovering what is available on the Web, or finding information on a particular topic of interest.

A number of solutions to this problem are being tried. These range from robots which roam the Web each day sniffing out new information and inserting it into large databases which can themselves be searched through the Web, to more traditional types of digital libraries, where librarians for different subject areas browse the Web, collate information, and produce indexes of their subject areas. A number of indexes are already available along these lines, or spanning the space in between these two extremes. While these are quite effective, none of them truly solves the problems of keeping up-to-date with a constantly changing Web of information and truly being able to separate the relevant from the irrelevant. This is an active area of research at many sites, together with other problems associated with scalability of the Web, such as preventing links from breaking when information moves, separating up-to-date information

from obsolete information, and maintaining multiple versions of documents, perhaps in different languages.

One new area of research is the development of a new Virtual Reality Markup Language (VRML). The idea behind VRML is to emulate the success of hypertext markup language (HTML) by creating a very simple language able to represent simple virtual reality scenarios. For example, the language might be able to describe a conference room by specifying the location of tables, chairs, and doors within a room. As with HTML the idea would be to have a language which can be translated into a viewable object on almost any platform, from small PC's to high-end graphic workstations. While the amount of detail available would vary between the platforms, the essential elements of the room would be the same between the platforms. Users would be able to move between rooms, maybe by clicking on doors, would be able to see who else was in the room, and would be able to put documents from their local computer "on to the conference table" from where others could fetch the document and view it.

This type of model could be further enhanced by the ability to include active objects into HTML or VRML documents. Using this technique, already demonstrated in a number of prototypes, active objects such as spreadsheets or data plots can be embedded into documents. While older browsers would display these objects merely as static objects, newer browsers would allow the user to interact with the object, perhaps by rotating a three dimensional plot, or

World Wide Web Protocols

TECHNICALLY the World Wide Web hinges on three enabling protocols, the HyperText Markup Language (HTML) that specifies a simple markup language for describing hypertext pages, the Hypertext Transfer Protocol (HTTP) which is used by Web browsers to communicate with Web clients, and Uniform Resource Locators (URL's) which are used to specify the links between documents.

Hypertext Markup Language

The hypertext pages on the Web are all written using the hypertext markup language (HTML), a simple language consisting of a small number of tags to delineate logical constructs within the text. Unlike a procedural language such as Postscript (move 1 inch to the right, 2 inches down, and create a green WWW in 15 point bold Helvetica font), HTML deals with higher level constructs such as "headings," "lists," "images," and so on. This leaves individual browsers free to format text in the most appropriate way for their particular environment; for example, the same document can be viewed on a Mac, on a PC, or on a linemode terminal, and while the content of the document remains the same, the precise way it is displayed will vary between the different environments.

The earliest version of HTML (subsequently labeled HTML1), was deliberately kept very simple to make the task of browser developers easier. Subsequent versions of HTML will allow more advanced features. HTML2 (approximately what most browsers support today) includes the ability to embed images in documents, layout fill-in forms, and nest lists to arbitrary depths. HTML3

(currently being defined) will allow still more advanced features such as mathematical equations, tables, and figures with captions and flow-around text.

Hypertext Transfer Protocol

Although most Web browsers are able to communicate using a variety of protocols, such as FTP, Gopher and WAIS, the most common protocol in use on the Web is that designed specifically for the WWW project, the Hypertext Transfer Protocol. In order to give the fast response time needed for Hypertext applications, a very simple protocol which uses a single round trip between the client and the server is used.

In the first phase of a HTTP transfer the browser sends a request for a document to the server. Included in this request is the description of the document being requested, as well as a list of document types that the browser is capable of handling. The Multipurpose Internet Mail Extensions (MIME) standard is used to specify the document types that the browser can handle, typically a variety of video, audio, and image formats in addition to plain text and HTML. The browser is able to specify weights for each document type, in order to inform the server about the relative desirability of different document types.

In response to a query the server returns the document to the browser using one of the formats acceptable to the browser. If necessary the server can translate the document from the stored format into a format acceptable to the browser. For example the server might have an image stored in the highly compressed JPEG image format, and if a browser capable of displaying JPEG images requested the image it would be returned in this format; however, if a browser capable of displaying images only if they are in GIF format requested

the same document the server would be able to translate the image and return the (larger) GIF image. This provides a way of introducing more sophisticated document formats in the future but still enabling an older or less advanced browser to access the same information.

In addition to the basic "GET" transaction described above the HTTP is also able to support a number of other transaction types, such as "POST" for sending the data for fill-out forms back to the server and "PUT" which might be used in the future to allow authors to save modified versions of documents back to the server.

Uniform Resource Locators

The final keys to the World Wide Web are the URLs which allow the hypertext documents to point to other documents located anywhere on the Web. A URL consists of three major components:

`<protocol>://<node>/<location>`

The first component specifies the protocol to be used to access the document, for example, HTTP, FTP, or Gopher, etc. The second component specifies the node on the network from which the document is to be obtained, and the third component specifies the location of the document on the remote machine. The third component of the URL is passed without modification by the browser to the server, and the interpretation of this component is performed by the server, so while a document's location is often specified as a Unix-like file specification, there is no requirement that this is how it is actually interpreted by the server.

The ability of Web browsers to communicate and negotiate with remote servers allows users on a wide variety of platforms to access information from many different sources around the world.

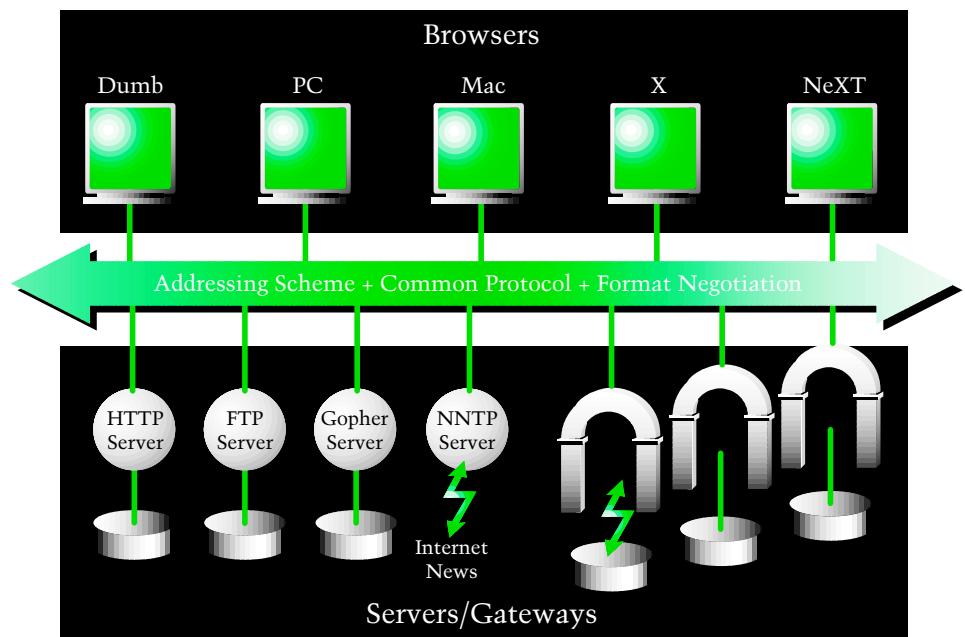
expanding and rebinning a particular area of a data plot.

Currently the Web is viewed mainly as a tool for allowing access to a large amount of "published" information. The new features described here, together with the encryption features described earlier that will allow more sensitive data to be placed on the Web, will open up the Web to a whole new area, where it will be viewed more as a "collaborative tool" than purely an information retrieval system. Ideally it will be possible to take classes on the Web, to interact with the instructor and fellow pupils, to play chess on the Web, to browse catalogs and purchase goods, and to collaborate actively in real-time with colleagues around the world on such tasks as document preparation and data analysis.

CONCLUSION

Over the previous year the characteristics of the average Internet user have changed dramatically as many new people are introduced to the Net through services such as America Online, aimed primarily at home users. The current Web usage is likely to be insignificant in comparison to the potential for usage once the much vaulted "Information Super Highway" reaches into peoples' homes.

It is perhaps unlikely that the services eventually offered domestically on the Information Super Highway will be direct descendants of the World Wide Web, but what is clear is that WWW offers an excellent testing ground for the types of services that will eventually be



commonplace. As such, the WWW may play a key role in influencing how such systems develop. At worst such a system may just become a glorified video delivery system and integrated home shopping network with a built-in method of tracking your purchases and sending you personalized junk e-mail. At its best such a system could provide truly interactive capabilities, allowing not only large corporations and publishers but also individuals and communities to publish information and interact through the network, while maintaining individual privacy. The outcome will have a major impact on the quality of life in the 21st century, influencing the way we work, play, shop, and even how we are governed.



ELECTRONIC SOURCES

THE SPIRES database and SLD information featured in this article can be accessed from the SLAC home page at:

<http://www-slac.slac.stanford.edu/FIND/slac.html>

The illustrations on the Web in this article show the Midas WWW browser developed at SLAC. Information on obtaining and using this browser is available from:

http://www-midas.slac.stanford.edu/midas_latest/introduction.html

Pointers to other pages mentioned in this article:

Global Network Navigator:
<http://nearnet.gnn.com/gnn/GNNhome.html>

CommerceNet:
<http://www.commerce.net>

Stanford Shopping Center:
<http://netmedia.com/ims/ssc/ssc.html>

EXHIBIT O

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

TRIPLAY, INC. and TRIPLAY, LTD.,)	
)	
Plaintiffs,)	
)	
v.)	Civil Action No. 13-1703-LPS
)	
WHATSAPP INC.,)	
)	
Defendant.)	

REPORT AND RECOMMENDATION

Presently pending before the Court is Defendant WhatsApp Inc.'s ("Defendant") motion to dismiss for failure to state a claim, filed pursuant to Rule 12(b)(6) of the Federal Rules of Civil Procedure (the "Motion"). (D.I. 7) Defendant argues that the claims of Plaintiffs TriPlay, Inc. and TriPlay, Ltd.'s (collectively, "Plaintiffs") United States Patent No. 8,332,475 (the "'475 patent") are directed to non-patent-eligible subject matter under 35 U.S.C. § 101 ("Section 101"). (D.I. 8 at 1) For the reasons that follow, the Court recommends that Defendant's Motion be GRANTED as to claim 12 of the '475 patent, and DENIED without prejudice as to the remaining claims of the '475 patent.

I. BACKGROUND

A. Factual Background

Plaintiff TriPlay, Ltd. is an Israeli corporation and is the owner of the '475 patent. (D.I. 4 at ¶¶ 3, 12) Plaintiff Triplay, Inc., a Delaware corporation, is the exclusive licensee of the patent. (*Id.* at ¶¶ 2, 12) The '475 patent is entitled "Messaging System and Method," and was issued on December 11, 2012. ('475 patent at 1)¹

¹ A printout from the United States Patent and Trademark Office's ("PTO") website of the text of the '475 patent was attached as an Exhibit A to Plaintiffs' Amended Complaint.

The specification of the '475 patent states that “[t]his invention relates to a field of electronic messaging and, in particular, to cross-platform messaging.” (’475 patent, col. 1:5-6) At the time of patenting, the “versatility of contemporary electronic messaging services [wa]s growing and giving rise to new message formats and new devices with messaging capabilities.” (*Id.*, col. 1:10-12) The specification lists examples of “[e]merging message formats” such as “MMS (Multimedia Message Service)” that complemented “traditional messaging services (e.g., e-mail, Short Message Service, instant messaging, etc.).” (*Id.*, col. 1:12-16) The adoption of these new messaging capabilities sometimes resulted in a situation where communication devices supported “different and not always compatible message and communication formats.” (*Id.*, col. 1:16-19) The specification described this as “[t]he problem of cross-platform messaging[.]” (*Id.*, col. 1:20)

As a solution to this problem, the patent sets forth various systems and methods for converting the layout and format of messages from one electronic device, such as a cellular phone, to another, such as a personal computer. (*Id.*, col. 10:32-35; *see, e.g. id.*, cols. 5:22-8:60 (describing “aspects” of the invention)). These systems and methods generally involve adapting or converting the layout and/or format of a message based on criteria relating to the communication or display capabilities of the destination device, or to the communication media between the originating and destination devices. (*See, e.g., id.*, cols. 5:22-45, 6:36-59, 7:1-19, 7:30-53, 16:24-30) Changes to the layout of a message may include, for example, truncating a

(D.I. 4, ex. A) A more complete version of the '475 patent, which includes the patent's figures, was attached as Exhibit A to Defendant's opening brief. (D.I. 8, ex. A) References to the "'475 patent" in this Report and Recommendation will refer to the column and line numbers of Exhibit A to Defendant's opening brief, which is the version of the document that the parties relied upon at oral argument.

portion of the message, substituting text for graphical elements of the message, or a reduction in the quality of an image. (*Id.*, cols. 21:22-22:12) Message formats subject to adaptation or conversion may include “text (including rich text), video format (e.g. MPEG family, WMV family, 3GPP, etc.), audio format (e.g. AMR family, MPEG audio layers, AAC, MIDI, etc.), image format (e.g. JPEG, GIF, BMP[,] etc.), and others.” (*Id.*, col. 12:18-21)

The patent specification recognizes that electronic messaging devices existed in the prior art, (*id.*, col. 10:27-42), and that various prior art “transcoding functionalities” existed to enable conversion of a message from one format or layout to another, (*id.*, col. 16:24-34). Likewise, the networks (or combinations of networks) upon which such messages are sent were known in the prior art. (*Id.*, col. 11:40-43) All told, the specification includes a list of 18 specific prior art systems addressing “the problem of cross-platform messaging[.]” (*Id.*, cols. 1:20-5:18).

The patent has 42 claims, including 14 independent claims and 28 dependent claims. The independent claims cover variations of the idea of using criterion relating to the capabilities of the destination device, or to the communication media, in order to convert a message from an originating device. Claim 1, for example, reads as follows:

1. A system for message communication via a communication media between one or more originating communication devices assigned to a sender and one or more destination communication devices assigned to a receiver, the system comprising:

- a) an access block configured to receive, directly or indirectly, from at least one originating communication device a message having initial characteristics comprising, at least message format and an initial message layout, and to transmit the message to at least one destination communication device;
- b) a media block operatively coupled to said access block and

configured to select, before transmitting, at least one message format and a message layout for each of the at least one message formats fitting to each of said at least one destination device, and to then convert at least said initial message layout to the selected message layouts, said selection and conversion being done in accordance with at least one criterion selected from a group comprising:

- i) criterion related to message communication capabilities of the destination communication device with regard to message communication capabilities of the originating communication device;
- ii) criterion related to message displaying capabilities of the destination communication device with regard to message communication capabilities of the originating communication device; and
- iii) criterion related to the communication media.

(*Id.*, col. 23:6-34) Claim 12 is a method claim variation of the same idea:

12. A method of message communication via a messaging system between one or more originating communication devices assigned to a sender and one or more destination communication devices assigned to a receiver, the method comprising:

- a) before delivery to the receiver, obtaining by a messaging system a message having initial characteristics comprising, at least, a message format and an initial message layout;
- b) selecting a message layout and converting at least said initial message layout to said selected message layout to form an adapted message layout in accordance with at least one criterion selected from a group comprising:
 - i) criterion related to message communication capabilities of the destination communication device with regard to message communication capabilities of the originating communication device;
 - ii) criterion related to message displaying capabilities of the destination communication device with regard to

message communication capabilities of the originating communication device; and

iii) criterion related to communication media between originating and destination device; and

c) facilitating delivery of the adapted message to the receiver.

(*Id.*, cols. 24:55-25:12) The dependent claims include additional limitations, such as the use of multiple communication devices assigned to a single receiver, (*id.* at claim 2), messages having layouts based on templates with unique identifiers (*id.* at claim 6), and interactive messages (*id.* at claim 7).

According to the Second Amended Complaint, WhatsApp infringes the '475 patent by using and selling the “WhatsApp Messenger System,” a cross-platform messaging product which is alleged to infringe at least claims 1 and 12 of the '475 patent. (D.I. 46 at ¶¶ 19-20) Exhibit C to that Complaint sets forth Plaintiffs’ allegations of infringement in some detail, including a description of the WhatsApp Messenger “app,” which “is available for iPhone, Blackberry, Android, Windows Phone and Nokia,” and allows users to exchange messages between their devices “without having to pay for SMS.” (D.I. 46 at ex. C [“Infringement Chart”], at 1 (emphasis omitted)) Plaintiffs’ Infringement Chart alleges that the WhatsApp Messenger app uses a server as an intermediary to receive messages, to convert the layout of a message to one that is suitable for the recipient’s mobile devices, and then to transmit the messages to the recipient’s mobile devices. (*Id.* at 33, 35-36, 45-46, 52-60)

B. Procedural Background

Plaintiffs commenced this action on October 15, 2013, and filed their Amended Complaint on October 16, 2013. (D.I. 1, 4) Defendant filed the instant Motion in lieu of

answering, (D.I. 7), and briefing was completed on the Motion on May 15, 2014.² The Motion was referred to the Court for resolution by Chief Judge Leonard P. Stark on May 20, 2014. (D.I. 19) Oral argument was held on October 17, 2014. Both before and after oral argument, the parties filed several notices of supplemental authority. (D.I. 21, 22, 24, 27, 28, 30, 34, 35, 40, 42, 43, 50, 51) As the law relevant to the Motion has continued to develop substantially since the completion of briefing, the Court has considered the full content of these notices in resolving the Motion.

II. APPLICABLE LEGAL STANDARDS

A. Articulation of the Standard of Review

Pursuant to Federal Rule of Civil Procedure 12(b)(6), a party may move to dismiss the plaintiff's complaint based on the failure to state a claim upon which relief can be granted. Fed. R. Civ. P. 12(b)(6). The sufficiency of pleadings for non-fraud cases is governed by Federal Rule of Civil Procedure 8, which requires "a short and plain statement of the claim showing that the pleader is entitled to relief[.]" Fed. R. Civ. P. 8(a)(2). In order to survive a motion to dismiss pursuant to Rule 12(b)(6), "a complaint must contain sufficient factual matter, accepted as true, to state a claim to relief that is plausible on its face." *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (internal quotation marks and citation omitted). In assessing the plausibility of a claim, the court must "construe the complaint in the light most favorable to the plaintiff, and determine whether, under any reasonable reading of the complaint, the plaintiff may be entitled to relief." *Fowler v.*

² A Second Amended Complaint, referenced above, was filed on March 6, 2015, adding infringement allegations relating to a second patent. (D.I. 46 at 1) The parties stipulated that the time to answer the Second Amended Complaint would be extended until 21 days after the issuance of this Report and Recommendation. (D.I. 48 at 1)

UPMC Shadyside, 578 F.3d 203, 210 (3d Cir. 2009) (citing *Phillips v. Cnty. of Allegheny*, 515 F.3d 224, 233 (3d Cir. 2008)).

Here, the Motion filed pursuant to Rule 12(b)(6) is used to assert an affirmative defense. In such cases, dismissal is permitted only if the well-pleaded factual allegations in the complaint, construed in the light most favorable to the plaintiff, suffice to establish the defense. *See Jones v. Bock*, 549 U.S. 199, 215 (2007); *Kabbaj v. Google, Inc.*, Civ. No. 13-1522-RGA, 2014 WL 1369864, at *2 n.2 (D. Del. Apr. 7, 2014); *see also Genetic Techs. Ltd. v. Agilent Techs., Inc.*, 24 F. Supp. 3d 922, 927 (N.D. Cal. Mar. 7, 2014).

Patentability under Section 101 is a “threshold inquiry” and a question of law. *In re Bilski*, 545 F.3d 943, 950-51 (Fed. Cir. 2008), *aff’d*, *Bilski v. Kappos*, 561 U.S. 593 (2010). Yet this question of law is also one that “may be informed by subsidiary factual issues[.]” *CyberFone Sys., LLC v. Cellco P’ship*, 885 F. Supp. 2d 710, 715 (D. Del. 2012) (citing *In re Comiskey*, 554 F.3d 967, 976 (Fed. Cir. 2009)). Certain members of the United States Court of Appeals for the Federal Circuit have recently suggested that “any attack on an issued patent based on a challenge to the eligibility of the subject matter must be proven by clear and convincing evidence.” *CLS Bank Int’l v. Alice Court Pty. Ltd.*, 717 F.3d 1269, 1304-05 (Fed. Cir. 2013) (Rader, J., concurring-in-part and dissenting-in-part).³

³ In their briefing, Plaintiffs rely heavily on the Federal Circuit’s decision in *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335 (Fed. Cir. 2013) (“*Ultramercial I*”), a case in which the Federal Circuit considered a district court’s dismissal of a patent infringement complaint on Section 101 grounds, pursuant to Rule 12(b)(6). (*See, e.g.*, D.I. 11 at 1, 13) Plaintiffs cite *Ultramercial II*, *inter alia*, for the propositions that “lack of subject matter eligibility must be proven by clear and convincing evidence” and that a patent claim can only be found to be patent-ineligible subject matter at the pleading stage if the “*only* plausible reading of the patent [is that there is] clear and convincing evidence of ineligibility.” (*Id.* at 13 (internal quotation marks omitted) (emphasis in original)) *Ultramercial II* recited these standards while

However, even assuming that the “clear and convincing” evidence standard is applicable to Section 101 challenges,⁴ it would apply only to the resolution of factual disputes, not to the resolution of pure issues of law. *See Microsoft Corp. v. i4i Ltd. P’ship*, 131 S.Ct. 2238, 2242-43 (2011) (analyzing the burden on validity challenges brought under 35 U.S.C. §§ 102 & 103, noting that these challenges involve “factual questions[,]” and concluding that invalidity defenses must be proven by clear and convincing evidence); *see also id.* at 2253 (Breyer, J., concurring)

also concluding that “it will be rare that a patent infringement suit can be dismissed at the pleading stage for lack of patentable subject matter[,]” and that a Section 101 analysis, “while ultimately a legal determination, is rife with underlying factual issues.” 722 F.3d. at 1338-39 (noting that such factual issues might include those relating to a determination of whether the patent embraces an abstract idea, or whether “‘genuine human contribution’” is required that amounts to more than “‘a trivial appendix to the underlying abstract idea,’ [which was] not at the time of filing ‘routine, well-understood, or conventional[.]’”) (citations omitted).

Ultramercial II was subsequently vacated by the Supreme Court of the United States, without consideration of the merits, in light of the Supreme Court’s decision in *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014). *See WildTangent, Inc. v. Ultramercial, LLC*, 134 S. Ct. 2870 (2014). It therefore lacks precedential effect. *See Genetic Techs. Ltd. v. Bristol-Myers Squibb Co.*, — F. Supp. 3d —, 2014 WL 5507637, at *4 (D. Del. Oct. 30, 2014); *Loyalty Conversion Sys. Corp. v. Am. Airlines, Inc.*, — F. Supp. 3d —, 2014 WL 4364848, at *10 n.5 (E.D. Tex. Sept. 3, 2014) (Bryson, J., sitting by designation). The Federal Circuit then issued a new decision in the *Ultramercial* case, reversing its prior decision and finding that the claims at issue there did not cover patent eligible subject matter. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 711-12 (Fed. Cir. 2014) (“*Ultramercial III*”). In that new decision, the Federal Circuit did not set out in detail an articulation of the standard of review for a Section 101 challenge at the pleading stage. Nor did the Federal Circuit comment on whether the typical Section 101 challenge is in fact often likely to be “rife with factual disputes.” *Id.* at 711-17 (concluding simply that “[b]ecause the [patent-in-suit’s] claims are directed to no more than a patent-ineligible abstract idea, we conclude that the district court did not err in holding that the [patent-in-suit] does not claim patent-eligible subject matter.”). Subsequently, in *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass’n*, 776 F.3d 1343, 1345-1349 (Fed. Cir. 2014), the Federal Circuit again affirmed a dismissal under Section 101 at the Rule 12(b)(6) stage without discussion of any disputed issues of fact.

⁴ In a concurring opinion in *Ultramercial III*, Judge Mayer concluded that in no circumstance should any presumption of eligibility attend the Section 101 inquiry. *Ultramercial III*, 772 F.3d at 720-21 (Mayer, J., concurring).

(noting that “the evidentiary standard of proof applies to questions of fact and not questions of law” and that “[m]any claims of invalidity rest . . . not upon factual disputes, but upon how the law applies to facts as given” such that where “the ultimate question of patent validity turns on the correct answer to legal questions [including] how [a legal standard] appl[ies] to the facts as given [then the clear and convincing] standard of proof has no application.”). Thus, this standard would be inapplicable in the Section 101 context if there are no disputed issues of fact that bear on the ultimate question of subject matter eligibility. *Cf. Genetic Technologies Ltd. v. Bristol-Myers Squibb Co.*, — F. Supp. 3d —, 2014 WL 5507637, at *15 (D. Del. Oct. 30, 2014); *Calif. Inst. Of Tech. v. Hughes Commc’ns Inc.*, — F. Supp. 3d. —, 2014 WL 5661290, at *2 n.6 (C.D. Cal. Nov. 3, 2014).⁵

B. Need for Claim Construction

There is no hard-and-fast rule that a court must construe terms in the claims at issue before it performs a Section 101 analysis. *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012) (“[W]e perceive no flaw in the notion that claim construction is not an inviolable prerequisite to a validity determination under [Section] 101.”) On the other hand, the Federal Circuit has also noted that “it will ordinarily be desirable—and often necessary—to resolve claim construction disputes prior to a [Section] 101

⁵ Additionally, it is less than clear how the “clear and convincing” standard would apply at all in the Rule 12(b)(6) context, where to the extent that there are disputes of fact, those facts are already construed in the light most favorable to Plaintiffs. *See Modern Telecom Sys. LLC v. Earthlink, Inc.*, No. SA CV 14-0347-DOC, 2015 WL 1239992, at *7-8 (C.D. Cal. Mar. 17, 2015) (holding that the clear and convincing evidence standard is not applicable to a motion to dismiss under Section 101, and stating that “[b]ecause, ordinarily, no evidence outside the pleadings is considered in resolving a motion to dismiss or a motion for judgment on the pleadings, it makes little sense to apply a ‘clear and convincing evidence’ standard—a burden of *proof*—to such motions”) (emphasis in original).

analysis, for the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter.” *Id.*

When assessing Rule 12 motions seeking dismissal on Section 101 grounds, courts have taken different approaches regarding the issue of claim construction. In those cases where it was not necessary to engage in claim construction in order to address the Section 101 legal issue (or where a plaintiff did not sufficiently articulate why it was necessary to do so), the courts have simply gone on to resolve the motion without construing claim terms. *See, e.g., Cogent Med., Inc. v. Elsevier Inc.*, — F. Supp. 3d —, 2014 WL 4966326, at *3 (N.D. Cal. Sept. 30, 2014) (finding that a claim construction analysis was “not necessary” in order to determine that certain claims were not eligible for patenting under Section 101); *Open Text S.A. v. Alfresco Software Ltd.*, Case No. 13-cv-04843-JD, 2014 WL 4684429, at *3 (N.D. Cal. Sept. 19, 2014) (same, where “the parties have not sought construction of any terms . . . and this lack of dispute over the proper construction of the asserted claims confirms that it is unnecessary to engage in claim construction before addressing validity under Section 101”); *cf. Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App’x 988, 992 (Fed. Cir. 2014) (holding that a patent claim was subject matter ineligible under Section 101 where the district court did not engage in claim construction, and where the plaintiff “d[id] not explain which terms require construction or how the analysis would change”). Alternatively, where the meaning of a key claim term was clearly disputed—but where even if plaintiff’s proposed construction was adopted, the motion would still be well taken—courts have adopted plaintiff’s proposed construction for purposes of the motion and have gone on to resolve the motion in defendant’s favor. *See Genetic Technologies Ltd. v. Lab. Corp. of Am.*, Civil Action No. 12-1736-LPS-CJB, 2014 WL 4379587, at *5-6 (D.

Del. Sept. 3, 2014) (citing cases); cf. *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1349 (Fed. Cir. 2014) (concluding at the Rule 12(b)(6) stage that “even when construed in a manner most favorable to [defendant], none of [defendant’s] claims amount to significantly more than the abstract idea [at issue]”) (internal quotation marks and citations omitted).

Yet in other such cases, where the parties disputed the appropriate construction to be given to key claim terms, courts have declined to rule on Rule 12 motions prior to engaging in claim construction. See *Data Distribution Technologies, LLC v. BRER Affiliates, Inc.*, Civil No. 12-4878 (JBS/KMW), 2014 WL 4162765, at *8 (D.N.J. Aug. 19, 2014) (denying without prejudice a Section 101 motion at the pleading stage and reserving a decision until after *Markman* where, *inter alia*, the patent-in-suit contained 100 claims, the plaintiff failed to propose relevant claim constructions and the parties did not agree as to the meaning of key claim terms); see also *Loyalty Conversion Sys. Corp. v. Am. Airlines, Inc.*, — F. Supp. 2d —, 2014 WL 4364848, at *4 (E.D. Tex. Sept. 3, 2014) (Bryson, J., sitting by designation) (noting that the Court waited to resolve a Rule 12(c) motion implicating Section 101 until after a *Markman* hearing was held, so as to ensure that “there [we]re no disputed issues of claim construction that would affect the proper analysis of the patentability of the asserted claims”). A denial of such a motion without prejudice may amount to a decision that there are possible constructions of key claim terms that, if adopted, could render the claims subject matter eligible. See *Data Distribution Techs*, 2014 WL 4162765 at *8, *15 (noting that, with key claim constructions disputed, defendant could not meet its burden to show that the claims were subject matter ineligible).

III. DISCUSSION

Defendant moves to dismiss Plaintiffs' Complaint on the basis that the '475 patent is drawn to non-patent-eligible subject matter under Section 101. (D.I. 8 at 1)

Before moving forward with its analysis, the Court addresses a threshold issue. With its Motion, Defendant seeks a ruling that all 42 claims of the patent-in-suit are not directed to patent-eligible subject matter. However, in arguing the Motion's merits, Defendant has focused primarily on claims 1 and 12 of the '475 patent—the two claims clearly asserted in the Amended Complaint, (D.I. 4 at ¶ 21), and the Second Amended Complaint, (D.I. 46 at ¶ 24). Indeed, in its briefing, Defendant barely touched upon the 40 remaining claims, addressing the subject matter eligibility of some of them in little more than half a sentence. (*See, e.g.*, D.I. 8 at 15-16 (addressing, in one brief paragraph, claims 2-5, 7-8, 10-11, 13-16, 18-22, 24-27, 29-30, and 32-35)) Defendant has suggested that the Court need not separately (i.e., on a claim-by-claim basis) evaluate whether every claim of the patent is subject matter eligible. Instead, it argues that so long as the Court analyzes one claim that is "sufficiently similar" to others, then if the Court determines that this examined claim is not subject matter eligible, it may summarily make the same determination as to the other similar claims. (D.I. 17 at 5-6 (citing cases))

In the present case, the Court declines to address claims other than claims 1 and 12. Defendant provided little analysis as to whether claims 1 and 12 are, in fact, representative of the remaining claims—and, as described above, there are real differences among those claims. And from a procedural and practical perspective, a process in which a defendant seeks to have large groups of claims ruled subject matter ineligible after giving negligible attention to them strikes the Court as unfair and fraught with the potential for problematic decisionmaking. In the end, as

the moving party, Defendant bears the burden to demonstrate that its asserted Section 101 defense is well taken as to each claim. In the absence of significant discussion regarding claims other than claims 1 and 12, the Court finds that Defendant has not carried its burden as to those claims. Therefore, below, the Court will address only claims 1 and 12—the two claims that are clearly asserted in the litigation and to which Defendant has, in fact, put forward substantial argument.⁶

With that as prologue, the Court will now turn first to the general framework for a Section 101 analysis, and will then apply the relevant principles to asserted claims 1 and 12 of the '475 patent.

A. Patentable Subject Matter

Patent-eligible subject matter is defined in Section 101 of the Patent Act:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 101. In choosing such expansive terms “modified by the comprehensive ‘any,’ Congress plainly contemplated that the patent laws would be given wide scope.” *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980).

⁶ See, e.g., *Genetic Techs.*, 2014 WL 5507637, at *4 n.5 (reviewing a Rule 12(b)(6) motion as to the issue of patentable subject matter, and addressing only the single clearly asserted claim, where the motion involved all claims of the patents-in-suit); *Genetic Techs.*, 2014 WL 4379587, at *3 n.4 (addressing, in reviewing a Rule 12(b)(6) motion as to the issue of patentable subject matter, the one clearly asserted claim that received the “lion’s share” of the parties’ focus); *Tuxis Techs., LLC v. Amazon.com, Inc.*, Civil Action No. 13-1771-RGA, 2014 WL 4382446, at *1, n.1 (D. Del. Sept. 3, 2014) (“Claim 1 is the only claim that received any significant attention during the briefing and oral argument. Therefore, the Court’s invalidity determination is confined to that claim.”).

Yet while the scope of Section 101 is broad, there is an “important implicit exception [to it]: [l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (internal quotation marks and citation omitted); *see also Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012). “‘Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, [because] they are the basic tools of scientific and technological work.’” *Prometheus*, 132 S. Ct. at 1293 (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

The Supreme Court of the United States, however, has also recognized that “too broad an interpretation of this exclusionary principle could eviscerate patent law.” *Id.*; *see also Alice*, 134 S. Ct. at 2354. This is because “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Prometheus*, 132 S. Ct. at 1293; *see also Alice*, 134 S. Ct. at 2354. To that end, it has explained that “an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.” *Diamond v. Diehr*, 450 U.S. 175, 187 (1981) (emphasis in original); *see also Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948) (“If there is to be invention from [a discovery of a law of nature], it must come from the application of the law of nature to a new and useful end.”) (internal quotation marks omitted).

In terms of the process used to analyze patent eligibility under Section 101, the Federal Circuit has explained that a court should first identify whether the claimed invention fits within one of the four statutory classes set out in the statute. *Ulramercial III*, 772 F.3d at 713-14; *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1341 (Fed. Cir.

2013). The court must then assess whether any of the judicially recognizable exceptions to subject matter eligibility apply, including whether the claims are to patent-ineligible abstract ideas. *Ultramercial III*, 772 F.3d at 714; *Accenture Global Servs.*, 728 F.3d at 1341.⁷

In *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347, 2354 (2014), the Supreme Court confirmed the framework to be used in order to distinguish patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts:

First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. . . . If so, we then ask, “[w]hat else is there in the claims before us?” . . . To answer that question, we consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. . . . We have described step two of this analysis as a search for an “‘inventive concept’”—*i.e.*, an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.”

Alice, 134 S. Ct. at 2355 (quoting *Prometheus*, 132 S. Ct. at 1294-98) (citations omitted; alterations in original); *see also Parker v. Flook*, 437 U.S. 584, 594 (1978). Since *Alice*, the Federal Circuit has recognized that “[d]istinguishing between claims that recite a patent-eligible invention and claims that add too little to a patent-ineligible abstract concept can be difficult, as the line separating the two is not always clear.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1255 (Fed. Cir. 2014).

⁷ There is no dispute that since claim 1 is a system claim and claim 12 is a method claim, they both fall within a Section 101 statutory class. The dispute here is about whether the claims are drawn to a patent-ineligible abstract idea, and so the Court will focus its analysis on that issue.

B. Analysis

1. *Alice*'s step one: Are the claims directed to an abstract idea?

The first step of the analysis set forth in *Alice* is to determine whether the claims are “directed to [a] patent-ineligible concept[.]” (here, an abstract idea). *Alice*, 134 S. Ct. at 2355. In this case, this threshold issue was in vigorous dispute.

In *Alice*, the Supreme Court provided guidance as to when a claim is “directed to” a patent-ineligible abstract idea. “The ‘abstract ideas’ category embodies ‘the longstanding rule that [a]n idea of itself is not patentable.’” *Alice*, 134 S. Ct. at 2355 (quoting *Gottschalk*, 409 U.S. at 67) (certain quotation marks omitted) (alteration in original). The abstract idea can be, but need not amount to, a “‘preexisting, fundamental truth’” about the natural world “that has always existed[.]” or a “method of organizing human activity” (such as a “longstanding commercial practice”). *Id.* at 2356-57 (quoting *Bilski*, 561 U.S. at 599) (internal quotation marks and citations omitted); *DDR Holdings*, 773 F.3d at 1256; *cf.* *CLS Bank*, 717 F.3d at 1286 (explaining that a claim directed to an abstract idea is one directed to a “disembodied concept . . . a basic building block of human ingenuity, untethered from any real-world application”) (internal quotation marks and citations omitted). The *Alice* Court found that beyond this, it did not need to “labor to delimit the precise contours of the ‘abstract ideas’ category[.]” as there was “no meaningful distinction” between the abstract idea at issue in the claims there (regarding the concept of intermediated settlement) and those at issue in its prior decision in *Bilski v. Kappos*, 561 U.S. 593 (2010).

Defendant here has expressed the alleged abstract idea in several ways, but the common thread amongst those articulations has been that the claims attempt to patent the abstract idea of

“converting and forwarding messages.” (D.I. 8 at 8; *see also* D.I. 33, Transcript of October 17, 2014 Oral Argument (“Tr.”) at 11 (Defendant’s counsel describing the abstract idea at issue as “taking any kind of message, converting it to a different layout depending on where you’re sending it, and sending it there”))⁸ According to Defendant, the “independent claims [of the ‘475 patent] each perform the three basic steps of the message conversion concept—i.e., receiving a message from one device, converting its layout to ensure compatibility with the destination device, and then sending it to the destination device.” (D.I. 8 at 4)

Plaintiffs, in contrast, argue that the claims do not implicate an abstract idea at all. (D.I. 11 at 16) Instead, they argue, the ‘475 patent “claims a purely technological, computerized solution to a purely technical problem, an intermediary messaging system with specific functionality for addressing differing electronic messaging layouts and formats between originating and destination devices.”⁹ (*Id.*); *see DDR Holdings*, 773 F.3d at 1255 (affirming

⁸ In its opening brief alone, Defendant included at least four similar, though slightly different, expressions of what was the alleged abstract idea at issue as to claims 1 and 12. (*See, e.g.*, D.I. 8 at 2 (“converting messages from one layout to another”); *id.* at 3 (“converting and passing messages between different types of devices”); *id.* at 8 (the “age-old abstract idea of converting and forwarding messages”); *id.* at 9 (“The fundamental message conversion concept at issue here . . . is . . . broken down into the basic steps of receiving a message, converting the message’s layout, and transmitting the converted message”)) Defendant’s reply brief characterized the idea as “the abstract concept of converting and sending messages,” (D.I. 17 at 8, 9), and its “Reply Regarding Supplemental Authorities” phrased the idea as “converting and forwarding messages or information[.]” (D.I. 28 at 1).

⁹ Plaintiffs devote a section of their answering brief to describing a similar patent application that was filed by Defendant, and argue that the ‘475 patent claims raise no “[a]bstractness [c]oncerns” because they cover “the same solution to the same problem” as the patent application that Defendant previously filed. (D.I. 11 at 11-12, 16 (emphasis omitted)) Plaintiffs have cited no authority for the proposition that the content of a previous patent application filed by Defendant is relevant to whether the ‘475 patent’s claims are patent eligible, simply by virtue of the fact that the application was filed. *See McRO, Inc. v. Atlus U.S.A.*, No. SACV 13-1870-GW(FFMx), 2014 WL 4772196, at *7 (C.D. Cal. Sept. 22, 2014) (rejecting as

patent eligibility where “the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks”). Plaintiffs emphasize that “the problem of facilitating cross-platform *electronic* messaging did not even exist before the Information Age,” and that it therefore cannot be an “age-old ‘abstract idea[.]’” (*Id.* (emphasis in original)) These technical features, Plaintiffs argue, “cannot be divorced from computers or machines[.]” and “[t]he entirety of the invention outlined in the ‘475 patent is tied to the functioning of machines, namely the intermediary messaging system and the originating and destination devices that communicate with the intermediary messaging system.” (*Id.* at 17-18) Plaintiffs’ argument then, at its core, is that the claims are inextricably tied to electronic messaging, and that fact alone takes the claims out of the realm of those “directed to” an abstract idea. (D.I. 11 at 18 (“Indeed there are no electronic messages at all without computers. Nor can electronic messaging be done in the human mind or by using a pen and paper.”))

In cases like this, the *Alice* step one analysis can turn on how far a court goes in peeling back a claim’s limitations while trying to divine what the claim is “really” directed to. In the Court’s view, the recent Federal Circuit case that most clearly explains the process that a court should use in applying step one to claims like these is the decision in *Ultramercial III*. That case dealt with claims relating to “a method for distributing copyrighted media products over the Internet where the consumer receives a copyrighted media product at no cost in exchange for viewing an advertisement, and the advertiser pays for the copyrighted content.” *Ultramercial III*,

irrelevant a counter-argument made in a Section 101 dispute that sought to compare the challenged patents to the challenger’s patents, and stating that “it is hard to fault anyone for seeking patents that may turn out to be invalid where the applicable standards are shifting and uncertain.”).

772 F.3d at 712. The representative claim at issue involved eleven steps, which the Federal Circuit characterized as follows:

(1) receiving copyrighted media from a content provider; (2) selecting an ad after consulting an activity log to determine whether the ad has been played less than a certain number of times; (3) offering the media for sale on the Internet; (4) restricting public access to the media; (5) offering the media to the consumer in exchange for watching the selected ad; (6) receiving a request to view the ad from the consumer; (7) facilitating display of the ad; (8) allowing the consumer access to the media; (9) allowing the consumer access to the media if the ad is interactive; (10) updating the activity log; and (11) receiving payment from the sponsor of the ad.

Id. at 714-15.

The Court determined that these claimed steps “recite[] an abstraction—an idea, having no particular concrete or tangible form.” *Id.* at 715. Despite the fact that some of the steps involved acts such as receiving or displaying information, or implicated the use of the Internet, the Federal Circuit held that the claims were ultimately directed to an abstract idea:

The process of receiving copyrighted media, selecting an ad, offering the media in exchange for watching the selected ad, displaying the ad, allowing the consumer access to the media, and receiving payment from the sponsor of the ad all describe an *abstract idea, devoid of a concrete or tangible application.*

Id. at 715 (emphasis added). In coming to this conclusion, the Federal Circuit looked to the claim as a whole, and found that “[a]lthough certain additional limitations, such as consulting an activity log, add a degree of particularity, the concept embodied by the *majority of the limitations* describes only the abstract idea of showing an advertisement before delivering free content.” *Id.* (emphasis added); see *Hewlett Packard Co. v. ServiceNow, Inc.*, Case No. 14-cv-00570-BLF, 2015 WL 1133244, at *5-6 (N.D. Cal. Mar. 10, 2015) (applying the “majority of the limitations”

language from *Ultramercial III* to hold that a claim was directed to an abstract idea).

Like the patent at issue in *Ultramercial III*, the “majority of the limitations” of the claims at issue in the '475 patent describe only an abstract idea: the idea of converting and forwarding messages, so that the messages are sent in a format and layout in which they can be received by a recipient. That is, taking claim 12 for example, the claim involves obtaining a message having a certain format and layout (step a); converting that prior layout to one that relates to the recipient’s particular messaging capabilities, or to the nature of the communications media that exists between the sender and recipient (step b, performed according to steps i, ii or iii); and then sending the adapted message to the recipient (step c).¹⁰ Similar to the claims in *Ultramercial III*, each of these steps represents an abstraction, lacking any concrete or tangible application, and their articulation accounts for much of the claim’s language and limitations overall.

More specifically, steps a and c recite the act of obtaining a message and “facilitating delivery” of that message. These steps do not have any concrete form, they do not specify a structure for the message, and they do not specify *how* the message is received or delivery is facilitated. The patent at issue in *Ultramercial III* likewise involved steps of “receiving” copyrighted media and “facilitating” the display of a sponsor message, and the Court there held that those steps “describe an abstract idea, devoid of a concrete or tangible application.” *Ultramercial III*, 772 F.3d at 712, 715-16; *see also Intellectual Ventures I, LLC v. Motorola Mobility LLC*, Civ. No. 11-908-SLR, 2015 WL 846532, at *7 (D. Del. Feb. 24, 2015) (“Although [the patentee] argues that the invention consists of more than the application of an

¹⁰ These steps are set forth in a straightforward manner in claim 12. ('475 patent, cols. 24:55-25:12) Claim 1 recites a system with components that are “configured to” perform similar steps. (*Id.*, col. 23:5-34)

abstract concept on a computer by virtue of reciting a ‘specific technological solution,’ the claims generically recite the steps of ‘presenting,’ ‘sending,’ and ‘receiving,’ with no description of the underlying programming.”).

Step b of claim 12 suffers from the same problems. It encompasses the idea of “converting” a message from one layout to another, but it does not specify *how* the layout is converted. (‘475 patent, cols. 23:17-34, 24:64-25:10) It states that the message layout is converted based on one of several criteria, but those criteria are identified only in the abstract (such as “criterion related to [the] communication media between [the] originating and destination device[s]”). (*Id.*, col. 25:9-10) The claims are not limited to any specific criteria, any particular kind of messages, or even any method of conversion.¹¹ (*Id.*) Thus, step b simply encompasses the abstract idea of converting message layouts generally.

To be sure, claim 12 does reference certain seemingly concrete elements, such as the originating and destination communication devices, and the “messaging system” that acts as an intermediary and converts the messages. Similarly, claim 1 includes an “access block” and a “media block[,]” which could be argued to possess a particularized form, depending on their construction. But the mere presence of *some* concrete claim elements—even elements associated with computer- or Internet-based technology—is insufficient to indicate that the claims as a whole are not directed to an abstract idea, if those elements are well overtaken in the claim by the articulation of the abstract idea itself. *See, e.g., Ultramercial III*, 772 F.3d at 715-16 (holding that the claim was abstract even though “certain additional limitations . . . add a degree of

¹¹ As described in the specification, the actual conversion can be done using any conventional prior art system. (‘475 patent, col. 16:30-34)

particularity[.]” because “the concept embodied by the majority of the limitations describes only the abstract idea”); *see also Content Extraction*, 776 F.3d at 1345-48 (addressing a claim involving “extracting data from hard copy documents using an automated digitizing unit such as a scanner” and “storing [that] information . . . into memory locations” using software on a computer, and holding that the claim was nevertheless directed toward an abstract idea under step one of the *Alice* test).

The Federal Circuit’s holding in *Dealertrack, Inc. v. Huber*, 674 F.3d 1315 (Fed. Cir. 2012), is also helpful in illustrating this point. In *Dealertrack*, the Court addressed a claim that involved sending data between “remote . . . device[s]” using an intermediary. *Id.* at 1331-32. The requirement of such devices and the intermediary in the claim did not deter the Court from concluding that the claim was directed to an abstract idea. *Id.* at 1333. Instead, the *Dealertrack* Court looked at the claimed process “in its simplest form[.]” and found that the claim “includes three steps: receiving data from one source . . . , selectively forwarding the data . . . , and forwarding reply data to the first source[.]” *Id.* at 1333. It found that this amounted to the “‘basic concept’ of processing information through a clearinghouse”—despite the fact that the claim, as written, involved an electronic message sent between prior art electronic devices, through the computerized intermediary. *Id.*¹² As in *Dealertrack*, here, regardless of the presence

¹² *See also Cyberfone Sys., LLC*, 558 F. App’x at 991-92 (finding that a claim involved an abstract idea—that of “using categories to organize, store, and transmit information”—when the claim involved a method of obtaining data transaction information entered on a telephone, separating it into component parts, and sending those parts to different destinations); *Accenture Global Servs.*, 728 F.3d at 1341 (describing, as to a claim involving a computer-based system for generating tasks in an insurance organization, the abstract idea involved in the claim as “‘generating tasks [based on] rules . . . to be completed upon the occurrence of an event.’”) (citation omitted).

of certain computer-related limitations, the lion's share of the claim elements in claims 1 and 12 of the '475 patent are directed to the abstract idea, not to any particularized or tangible application of that idea. *See id.*; *see also Ultramercial III*, 772 F.3d at 714-16.

Lastly, the Court addresses the Federal Circuit's recent opinion in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). There, the Federal Circuit appeared to suggest that the claims of a patent relating to the handling of Internet hyperlinks in an online store were not directed to an abstract idea under step one of the *Alice* test.¹³ The claims in *DDR Holdings*

¹³ At no point in *DDR Holdings* does the Federal Circuit *explicitly* state that the claims at issue there are or are not directed to an abstract idea. This has created some confusion regarding whether or not such a conclusion was a part of the holding in the case. *Compare Smartflash LLC v. Apple Inc.*, CASE Nos. 6:13cv447-JRG-KNM, 6:13cv448-JRG-KNM, 2015 WL 661174, at *5 (E.D. Tex. Feb. 13, 2015) (concluding that *DDR Holdings* found that the asserted claims "might be characterized as an allegedly abstract idea" but found that the claims satisfied *Alice*'s step two), and *MyMedicalRecords, Inc. v. Walgreen Co.*, No. 2:13-CV-00631-ODW (SHx), 2014 WL 7339201, at *4 (C.D. Cal. Dec. 23, 2014) (describing *DDR Holdings* as "[h]aving found the [patent's] claims directed to a patent-ineligible idea" under step one of the *Alice* test), *with* (D.I. 43, ex. B at 4, 5-6 (showing, in an excerpt from the PTO's Examination Guidance and Training Materials, that the PTO characterizes *DDR Holdings* as having found that the claims there were patent-eligible under step one of the *Alice* test)), and *KomBea Corp. v. Noguar L.C.*, — F. Supp. 3d. —, 2014 WL 7359049, at *5 (D. Utah Dec. 23, 2014) (determining that *DDR Holdings* "found that the patents were not directed toward an abstract idea").

In the Court's view, the decision in *DDR Holdings*, at a minimum, strongly implies that the claims at issue were not directed to an abstract idea. In every instance in which the *DDR Holdings* Court discusses *Alice*'s step one, it does so by explaining why the claims are *not* like those found, in prior Supreme Court or Federal Circuit cases, to have been directed to an abstract idea. In light of this, although the majority decision in the case ultimately turns on the Federal Circuit's conclusion that the claims "satisfy *Mayo/Alice* step two[.]" *DDR Holdings*, 773 F.3d at 1257, the majority appears to have come to that conclusion after having gone through the following analysis: (1) the claims do not appear to be directed to an abstract idea; (2) despite this, the defendant and the dissent have suggested that they are; and (3) thus, the majority decision explains why, even were the claims to be considered directed to an abstract idea, they nevertheless satisfy *Alice*'s step two (because they add an inventive concept to the asserted abstract idea).

related to a “solution” to an “Internet-centric problem”: “the problem of retaining website visitors that, if adhering to the routine, conventional functioning of Internet hyperlink protocol, would be instantly transported away from a host’s website after ‘clicking’ on an advertisement and activating a hyperlink.” *DDR Holdings*, 773 F.3d at 1257, 1259. Once the visitor was transported away from the host’s website, the host risked losing “control over the attention of the customer[.]” *Id.* at 1258. The claimed invention was intended to solve this problem by using a destination website that looks and feels like the host’s own website:

[A]sserted claim 19 recites a system that, among other things, 1) stores “visually perceptible elements” corresponding to numerous host websites in a database, with each of the host websites displaying at least one link associated with a product or service of a third-party merchant, 2) on activation of this link by a website visitor, automatically identifies the host, and 3) instructs an Internet web server of an “out-source provider” to construct and serve to the visitor a new, hybrid web page that merges content associated with the products of the third-party merchant with the stored “visually perceptible elements” from the identified host website.

Id. at 1257. The representative claim at issue in *DDR Holdings* included specific limitations implementing this system that resulted in the generation of these “new, hybrid web page[s]”—limitations relating to the content and ownership of the web pages at issue, and to the manner in which the computer server at issue received, stored and retrieved certain data relating to those web pages. *Id.* at 1249-50.

The *DDR Holdings* Court held that “these claims stand apart” from those in other recent Section 101 opinions, even though they too “involve both a computer and the Internet[.]” because the claims “do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.” *Id.* at 1257. It

specifically distinguished these claims from those at issue in *Ultramercial III* because the claims in *DDR Holdings* did “not broadly and generically claim ‘use of the Internet’ to perform an abstract business practice (with insignificant added activity)”; instead, they “specify how interactions with the Internet are manipulated to yield a desired result—a result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink.” *Id.* at 1258. Thus, in *DDR Holdings*, the “claimed solution [was] necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *Id.* at 1257; *see also Essociate, Inc. v. Clickbooth.com, LLC*, No. SACV 13-01886-JVS (DFMx), 2015 WL 1428919, at *6 (C.D. Cal. Feb. 11, 2015).

At first blush, the language used in *DDR Holdings* seems helpful to Plaintiffs. Claims 1 and 12, after all, relate to a problem specifically arising in the realm of electronic communication devices (e.g., a realm akin to that of “computer networks”). And those claims appear to be meant to address problems that are specific to communication between those electronic devices.

Yet although the realm of electronic communications provides the *setting* in which the claims are introduced, the clear majority of the claim language that is at issue here is not “necessarily rooted in computer technology[,]” nor in the technology of electronic communications devices. Instead, the majority of that claim language speaks to an abstract idea (converting and forwarding messages, so that the messages are sent in a format and layout in which they can be received by a recipient) that has long been used to resolve problems in the area of communications (electronic and otherwise), and that can potentially be applied in just about any communications context, depending on the means of communication. As Defendant notes, at a basic level, “humans have [utilized this abstract idea] on paper for centuries in fields such as

printing, publication, advertising, and architecture—whether it be transcribing ancient texts, organizing content for a newspaper, arranging photographs for a school yearbook, adapting ad copy for a full-sized billboard, or scaling down blueprints for a building permit.” (D.I. 8 at 8; *see also* Tr. at 11 (Defendant’s counsel suggesting that the abstract idea at issue has been put to use in the past by “taking an Ancient text written in Egyptian hieroglyphics [and sending it] to the New York [P]ublic [L]ibrary [after] translat[ing] it to English”)); *cf. Messaging Gateway Solutions, LLC v. Amdocs, Inc.*, Civil Action No. 14-732-RGA, 2015 WL 1744343, at *2-4 (D. Del. Apr. 15, 2015) (holding that a claim involving “receiving a text message[,]” converting the message to an “Internet Protocol (IP) message[,]” and “transmitting the IP message to [an] Internet server” was directed to the abstract idea of “translation” under step one of the *Alice* analysis). The idea has also been put into practice through the use of conventional technologies for years. For example, a legal assistant might receive a letter for an attorney while the attorney is out of the office, and relay the message to the attorney at her home office via a fax machine.¹⁴

Thus, the Federal Circuit’s holding in *DDR Holdings* is not inconsistent with a determination that claims 1 and 12 are directed to an abstract idea under step one of the *Alice* test. And in light of the additional precedent set out above, the Court concludes that the claims are so directed.

¹⁴ As an even older example, one could imagine delivering a written message to a telegraph operator in the 19th or early 20th centuries, who might convert the layout and format of the message to a string of Morse code and transmit the message to another telegraph operator. *See, e.g., W. Union Tel. Co. v. Foster*, 247 U.S. 105, 112 (1918) (discussing a process by which “[stock market] quotations are furnished to [a telegraph company] in New York, telegraphed by it to the office of [a telegraph company] in Boston, translated from the Morse code into English, and thence transmitted by an operator to the tickers in the offices of the [stock] brokers who have subscribed and have been approved.”).

2. *Alice*'s step two: Do the claims contain an inventive concept?

Step two of the *Alice* framework asks whether the claims contain an “inventive concept,” meaning “an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Alice*, 134 S.Ct. at 2355 (internal quotation marks and citation omitted); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1353 (Fed. Cir. 2014) (noting that a claim falls outside of Section 101 when, in the second step of the *Alice* framework, the “‘additional elements’ [not involving the ineligible matter] do not supply an ‘inventive concept’ in the physical realm of things and acts—a ‘new and useful application’ of the ineligible matter in the physical realm—that ensures that the patent is on something ‘significantly more than’ the ineligible matter itself.”) (quoting *Alice*, 134 S.Ct. at 2355, 2357). The additional elements within the claims, apart from the abstract idea itself, must involve more than “‘well-understood, routine, conventional activit[ies]’ previously known to the industry.” *Alice*, 134 S.Ct. at 2359 (quoting *Prometheus*, 132 S. Ct. at 1294); *see also Prometheus*, 132 S. Ct. at 1300 (“[S]imply appending conventional steps, specified at a high level of generality, to . . . abstract ideas cannot make those . . . ideas patentable.”). The purpose of the “inventive concept” requirement is to “ensure that the claim is more than a drafting effort designed to monopolize the abstract idea.” *Alice*, 134 S. Ct. at 2357 (internal quotation marks, citation and brackets omitted). Neither “limiting the use of an abstract idea to a particular technological environment[.]” nor simply stating an abstract idea and adding the words “apply it[.]” will transform an abstract idea into a patent-eligible invention. *Alice*, 134 S. Ct. at 2358 (internal quotation marks and citations omitted).

The *Alice* Court held that, based on these principles, “the mere recitation of a generic

computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Id.* “Given the ubiquity of computers,” it said, “wholly generic computer implementation is not generally the sort of ‘additional featur[e]’ that provides any ‘practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea] itself.’” *Id.* (quoting *Prometheus*, 132 S. Ct. at 1297).

a. Claim 12 lacks an inventive concept.

The Court will examine claim 12 first. In doing so, it will begin by determining what portion of the claim is directed towards the abstract idea, and what portion constitutes the “additional elements.” The abstract idea in this case is, as set forth above, the process of converting and forwarding messages, so that the messages are sent in a format and layout in which they can be received by a recipient.

In claim 12, the abstract idea is implemented using conventional technologies and techniques, each of which the patent’s own specification recognizes existed in the prior art.¹⁵ The claim describes a method of messaging communication, in which:

- (1) A message is transmitted between “communication devices[,]” (’475 patent, col. 24:56-58; *see also id.*, col. 10:27-42);
- (2) with the “message having . . . at least . . . a message format and [a] message layout,” (*id.*, col. 24:61-63; *see also id.*, cols. 2:59-63, 3:56-57);
- (3) wherein the message is obtained by a “messaging system” and then “convert[ed,]” (*id.*, cols. at 24:55-56, 24:60-64; *see also id.*, col. 16:30-34), into one with a new layout in accordance with certain criterion;

¹⁵ According to the *Ultramercial III* Court, “any novelty in [the] implementation of [an abstract] idea is a factor to be considered only in the second step of the *Alice* analysis.” *Ultramercial III*, 772 F.3d at 715.

(4) which criterion relate to “message communication capabilities” or “message displaying capabilities” of the originating or destination communication devices or to the “communication media,” (*id.*, cols. 24:64-25:10; *see also id.*, col. 10:47-51);

(5) and the system then “facilitat[es] delivery” of the adapted message to the receiver, (*id.*, col. 25:11-12; *see also id.*, col. 2:7-10).

In attempting to articulate which limitations contained in the claim sufficiently narrow its scope, so that it does not cover the full abstract idea itself, Plaintiffs advance a number of arguments. The Court addresses each below.

First, Plaintiffs point to “the fact that the ‘messages’ must be electronic messages that are sent and received by electronic ‘communication devices’ [which] prevents the claims from preempting all forms of ‘converting and forwarding messages’ that ‘humans have done on paper for centuries.’” (D.I. 11 at 19) It is true that the claim, as interpreted by Plaintiffs, at least limits the type of conversion at issue to that involving electronic messages—a narrower field than “all forms” of messages. Yet in *Dealertrack*, for example, the fact that the claimed method of managing credit applications was limited to electronically-processed applications did not impact the Federal Circuit’s conclusion that sufficiently meaningful limits had not been imposed on the abstract idea present in the claim. *Dealertrack*, 674 F.3d at 1333-34; *cf. Accenture Global Servs.*, 728 F.3d at 1345 (“Accenture attempts to limit the abstract idea of claim 1 by applying it in a computer environment and within the insurance industry. However, those types of limitations do not ‘narrow, confine or otherwise tie down the claim.’”). The prohibition against patenting abstract ideas cannot be circumvented by “attempting to limit the use of the [idea] to a particular technological environment[.]” *Bilski*, 561 U.S. at 610 (citing *Diehr*, 450 U.S. at 191-92); *see also Ultramercial III*, 772 F.3d at 716 (finding that “[n]arrowing the abstract idea of

using advertising as a currency to the Internet is an ‘attempt[] to limit the use’ of the abstract idea ‘to a particular technological environment,’ which is insufficient to save a claim.”) (citation omitted).

Second, Plaintiffs assert that the message conversion at issue is accomplished by an “intermediary” computer (the “messaging system” referenced in the claim). (D.I. 11 at 19) Yet this intermediary computer can simply be a generic computer, which is not sufficient to render the claim patent eligible. (’475 patent, cols. 9:64-10:3; Tr. at 45-46 (acknowledging, at least as to claim 1, that the claim can be met by a “general-purpose computer reconfigured by a computer program”)); *see also Dealertrack*, 674 F.3d at 1331-34 (holding that a claim involving a computer-based intermediary was not patent eligible under Section 101); *cf. Alice*, 134 S.Ct. at 2359 (“[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”).

Third, Plaintiffs argue that “even in the context of a messaging system solution, the claims cover specific functionality for addressing” different electronic message layouts and formats and for forwarding those messages. (D.I. 11 at 19) This argument would carry some weight if it were supported with regard to claim 12. In *DDR Holdings*, for example, the claims were held to be patent eligible under the second step of the *Alice* test because they involved a “solution” to a problem, and which described “*how* interactions with the Internet are manipulated to yield a desired result” and avoided pre-emption by claiming only a “specific way” of performing the task, such that “the claims at issue [did] not attempt to preempt every application of the idea[.]” *DDR Holdings*, 773 F.3d at 1258-60 (emphasis added) (noting that the claims described a specific way of automating “the creation of a composite web page by an ‘outsourced

provider’ that incorporates elements from multiple sources in order to solve a problem faced by websites on the Internet”). These “‘additional features’ . . . ensure[d] the claims [we]re ‘more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* at 1259 (quoting *Alice*, 134 S.Ct. at 2357).

But Plaintiffs do not identify any such “specific” functionality here, and an examination of claim 12 reveals none. Claim 12 does not purport to limit itself to a specific way of converting a message from one layout to another—it simply covers the act of “converting” messages, based on certain criteria relating to communication or display capabilities of the originating or destination devices or on the relevant communication media. (‘475 patent, cols. 24:55-25:12); see *E. Coast Sheet Metal Fabricating Corp. v. Autodesk, Inc.*, Civil No. 12-cv-517-LM, 2015 WL 226084, at *9 (D.N.H. Jan. 15, 2015) (distinguishing *DDR Holdings*, because “[w]ithout a disclosure of how the invention does what it does, neither the specification nor the claim identifies an inventive concept.”). The criteria specified in the claim are exactly the criteria that any cross-platform messaging system would have to use.¹⁶ In other words, the patentee recognized the *problem* inherent in cross-platform messaging, but claim 12 is not limited to any particular *solution* to that wide-ranging problem. *Cf. Messaging Gateway Solutions*, 2015 WL 1744343 at *4-6 (holding a similar claim to be patent eligible under step two of the *Alice* analysis where it “specifies *how* an interaction between a mobile phone and a computer is manipulated in order to achieve a desired result which overrides conventional practice[.]” in addition to containing “meaningful limitations that prevent it from preempting the

¹⁶ When asked at oral argument, Plaintiffs’ counsel was unable to list any *other* criteria that might be used to convert a message from one layout to another in the context of cross-platform messaging. (Tr. at 73-74)

abstract idea of receiving, translating, and delivering a message” such as being “limited to SMS text messages between a mobile device and the Internet”) (emphasis added). Thus, claim 12’s limitations are expressed primarily in broad, functional terms and, as a whole, the claim preempts almost any application of the abstract idea to the field of cross-platform messaging. *See Alice*, 134 S.Ct. at 2354-55 (patents that claim the “building blocks of human ingenuity . . . risk disproportionately tying up the use of the underlying ideas, . . . and are therefore ineligible for patent protection”) (internal quotation marks and citations omitted); *Dealertrack*, 674 F.3d at 1333 (finding the claim at issue not subject matter eligible under Section 101 in part because the “claims are silent as to how a computer aids the method, the extent to which a computer aids the method, or the significance of a computer to the performance of the method” such that the computer “does not play a significant part in permitting the claimed method to be performed”) (internal quotation marks and citation omitted).¹⁷

Fourth, in their briefing and at oral argument, Plaintiffs pointed most prominently to the Federal Circuit’s decision in *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319 (Fed. Cir. 2010), arguing that here, as there, the invention is tied to a particular machine. (D.I. 11 at 17-18; Tr. at 75-76) The Federal Circuit in *SiRF* affirmed a district court’s determination that several

¹⁷ Cf. *Loyalty Conversion Sys. Corp.*, — F. Supp. 3d —, 2014 WL 4364848, at *13 (describing certain “business method” patents that have been held to be patent ineligible, and noting a common thread: “In short, such patents, although frequently dressed up in the argot of invention, simply describe a problem, announce purely functional steps that purport to solve the problem, and recite standard computer operations to perform some of those steps” such that they recite “functional descriptions of objectives, rather than inventive solutions”); *Amdocs (Israel) Ltd. v. Openet Telecom., Inc.*, — F. Supp. 3d —, 2014 WL 5430956, at *11 (E.D. Va. Oct. 24, 2014) (describing the concerns of the Supreme Court in *Alice* “that claims to abstract ideas would preempt the ‘building blocks’ of research—in essence, that people who merely had the idea of how to solve a problem, but did not actually know how to solve the problem, would prevent others from performing research and achieving actual solutions”).

claims relating to methods for calculating the position of Global Positioning System (“GPS”) receivers were patent eligible under Section 101. *SiRF*, 601 F.3d at 1322-23, 1331-33. The *SiRF* Court came to this conclusion after applying the machine-or-transformation test, which states that a claimed process is patent eligible if (1) “it is tied to a particular machine or apparatus”; or (2) “it transforms a particular article into a different state or thing.” *Id.* at 1332 (internal quotation marks and citation omitted); *Ultramercial III*, 772 F.3d at 716 (noting that this test, while not the sole test governing a Section 101 analysis, can provide a “useful clue” in the second step of the *Alice* framework) (internal quotation marks and citation omitted). The test also requires that the use of a specific machine or transformation of an article must impose meaningful limits on the claim’s scope to impart patent eligibility, such that (in a claim involving a machine) the machine plays “a significant part in permitting the claimed method to be performed, rather than function[ing] solely as an obvious mechanism for permitting a solution to be achieved more quickly[.]” *SiRF*, 601 F.3d at 1332-33.

In *SiRF*, the Federal Circuit held that “[a] GPS receiver is a machine and is integral to each of the claims at issue[.]” in that the claims were directed to “calculating an absolute position of a GPS receiver” through the use of, for example, “pseudoranges[.]” which are the distances or estimated distances between satellites and a GPS receiver and that could only exist “with respect to a particular GPS receiver that receives the satellite signals.” *Id.* at 1332 (internal quotation marks and citations omitted). According to the *SiRF* Court, “the presence of the GPS receiver in the claims place[d] a meaningful limit on the scope of the claims[.]” as the Court was not faced with a situation where “there is a method that can be performed without a machine” nor with calculations that “can be performed entirely in the human mind.” *Id.* at 1332-33.

In this case, claim 12 requires the use of an intermediary “messaging system” and certain “communication devices.” (See e.g., '475 patent, col. 24:55-58) But these requirements are not tied to a “particular” machine in the way that the claims were in *SiRF*. As the Federal Circuit explained in *SiRF*, “Global Positioning System” is not a generic term—it refers to an individual system “comprising thirty-two satellites orbiting Earth that were placed in orbit by the United States and are operated by the United States.” *Id.* at 1322. A GPS receiver, in turn, is a device that calculates its position based on the signals it receives from those 32 satellites, using codes transmitted by the satellites. *Id.* A GPS receiver, in other words, is tied to a specific system that transmits a predetermined set of codes.

In contrast, claim 12’s references to a “messaging system” and originating and destination “communication devices” are not references to particular machines. See *Alice*, 134 S.Ct. at 2360 (rejecting claims as abstract that recited computer hardware defined in “purely functional and generic” terms). Although the Court need not look to the specification to resolve the issue, a review of the '475 patent’s specification confirms this. The specification notes, for example, that “[t]he term ‘communication device’ used in this patent specification should be expansively construed to include any kind of CPE (customer premises equipment) device with messaging communication capabilities, including those adapted for coupling with voice, data, video and/or multimedia terminals.” ('475 patent, col. 10:27-32) These communication devices can also include “personal and other computers[.]” (*Id.*, col. 10:33-34) This expansive definition contrasts with the GPS devices of *SiRF*. The Court also notes that the “messaging system” at issue can be a general purpose computer, and can be used with “any network architecture facilitating messaging between communication devices.” (*Id.*, col. 11:60-61; see also *id.*, col.

10:1-3; Tr. at 45-46) These references in claim 12, then, are more akin to the “remote application entry and display device” and “funding source terminal devices” referenced in the claims at issue in *Dealertrack*. 674 F.3d at 1319-20. Those terms likewise encompassed a “personal computer[,]” *id.* at 1331-32, and as such the court there held that the claims were not “tied to a particular machine[,]” *id.* at 1333-34; *see also Content Extraction*, 776 F.3d at 1347-48 (holding that a claim’s requirement of certain hardware—a “generic scanner”—was insufficient to render it patent eligible under step two of the *Alice* test).¹⁸

Fifth, at oral argument, Plaintiffs emphasized the fact that they “had to overcome 18 prior art references[,]” cited in the specification, in order to obtain the patent-in-suit, a fact that they contend proves that their claims describe a “very specific system with very specific features to solve” the problem of cross-platform messaging. (Tr. at 38; *see also id.* at 51-52, 68-69; ‘475 patent, cols. 1:20-5:18) Plaintiffs are correct that pre-emption concerns drive the Section 101 analysis. *Alice*, 134 S. Ct. at 2354. With regard to the 18 prior art references that Plaintiffs cite, however, most of them are directed towards other aspects of cross-platform communications. For example, several of the references relate to using “presence” information (such as determining and using the location or availability of the recipient). (*See id.*, cols. 1:57-66, 2:32-46, 3:3-14) Another reference involves “integrating [a] multimedia file into template to construct email message that is transmitted to [a] recipient, and opening [the] file when message is

¹⁸ A similar result was reached by the United States District Court for the Central District of California in *Eclipse IP LLC v. McKinley Equip. Corp.*, No. SACV 14-742-GW(AJWx), 2014 WL 4407592, at *6-7 (C.D. Cal. Sept. 4, 2014), which held a claim ineligible under Section 101 despite its incorporation of a computer-based notification system facilitating communications via a “personal communications device,” as such a device amounted to a “broad category” that included a “personal computer” or other “generic hardware[.]”

received[,]” and others relate to things like “server-side management of buddy lists” or a “[u]ser interface for creating [a] multimedia message[.]” (*See id.*, cols. 2:25-31, 3:23-36, 4:24-42 (internal quotation marks and citations omitted))

One of the cited references, U.S. Patent Application No. 2005/15,443, does appear on its face to clearly address the problem of cross-platform electronic messaging between multiple kinds of devices—but Plaintiffs made no effort to describe how that reference differs from the claims. (*See id.*, cols. 2:59-3:2) Even if this prior art system is in some way different from the claimed system, that is not enough to avoid preemption, because a claim need not tie up the entire field to preempt; the underlying concern is whether the claim “tie[s] up *too much* future use” of the abstract idea. *Prometheus*, 132 S.Ct. at 1302 (emphasis added); *see also Walker Digital, LLC v. Google, Inc.*, C.A. No. 11-318-LPS, 2014 WL 4365245, at *3 n.2 (D. Del. Sept. 3, 2014) (“[T]he inquiry on preemption is not whether patents directed at ‘building blocks of human ingenuity’ would pre-empt an *entire* field but, instead, whether such patents ‘would risk *disproportionately* tying up the use of the underlying ideas.’”) (quoting *Alice*, 134 S.Ct. at 2354) (certain emphasis omitted). In this case, it is clear that claim 12 imposes no significant limitations on the abstract idea, and therefore disproportionately ties up the future use of that idea.

Thus, aside from the abstract idea embedded in it, the remainder of claim 12 amounts to the description of conventional steps, accomplished using computer hardware recited in “purely functional and generic” terms. *Alice*, 134 S. Ct. at 2360. No fact disputes have been raised that need to be resolved before coming to this conclusion of law. Therefore, the Court recommends that as to claim 12, the Motion should be granted.

b. The patent eligibility of claim 1 turns on claim construction.

Claim 1 is a system claim that largely mirrors the structure of claim 12. It is apparent from an examination of the two claims that they are intended to correspond to one another. And so, with the exception of what is articulated below, many of the arguments against patentability set out as to claim 12 above would also apply to claim 1.

Unlike claim 12, paragraph a of claim 1 requires an “access block”—a claim element configured to perform functions roughly corresponding to paragraph a and c of claim 12. Paragraph b of claim 1 likewise calls for a “media block” configured to perform functions roughly corresponding to paragraph b of claim 12. The question is whether the additional “access block” and “media block” elements add any significant limitations to claim 1, such that they render the claim patent eligible.

Plaintiffs assert that these elements are more than just generic computer hardware or shorthand for the functions set forth in the claim. Instead, they argue, these terms represent specific “structure” that amounts to added limitations essential to the invention. (Tr. at 48)

At oral argument, (*id.*), for example, Plaintiffs’ counsel cited to the following portion of the specification as providing insight as to what an “access block” is:

The access block **21** includes a users’ gateway **211** and 3rd party applications’ gateway **214** supporting communication with communication devices and 3rd party application(s) via corresponding network(s) (e.g. public switched and private fixed line networks, cellular networks, broadband networks, data communication networks, Internet, cable networks, etc.) via available communication standard[s], system[s] and/or protocol[s] (e.g. XMPP, HTTP, WAP, SMS, MMS, SMTP, etc.) and variants of evolution thereof. It should be noted that unless specifically stated otherwise, the communication with [a] communication device includes communication via [the] device’s interface(s), standard client(s) and/or dedicated client(s) installed at the

communication devices.

(’475 patent, col. 13:4-16; *see also id.* at FIG. 2) The portion of the specification cited by Plaintiffs primarily refers to generic computer functions, such as communication over networks using prior art protocols via unspecified “client(s)” on the communication devices (which may themselves be generic computers). But it also incorporates several other components, including a “users’ gateway **211**” and “3rd party applications’ gateway **214**[.]” And the specification goes on to refer to how the “users’ gateway **211**” is connected with a “traffic management server **213**” via a “caching [sic] layer block **212** also constituting part of the access block.” (*Id.*, col. 13:17-19) The Court is not now in a position, without the benefit of claim construction, to determine whether or not these additional components are incorporated into the claim as limitations and, if so, whether those limitations constitute more than “purely functional and generic” elements or otherwise supply an “inventive concept” that renders the claim patent eligible. *Alice*, 134 S. Ct. at 2360.

Similarly, at oral argument, (Tr. at 48), Plaintiffs’ counsel cited to the following portion of the specification as helping to define a “media block”:

In accordance with certain embodiments of the present invention, the media block **23** comprises a transcoder **232** operatively coupled with a message manager **231** further optionally comprising a template module **51** operatively coupled with the database **26**. The media block is configured to select the format and message layout fitting to the destination device and to convert the message accordingly before facilitating its delivery to the destination device.

(’475 patent, col. 16:20-27; *see also id.* at FIG. 5) Like the “access block,” the media block may include specific components that tie down the claim to something other than just a claim on the abstract idea.

Based on Plaintiffs' representations, the Court cannot at this time hold that claim 1 is not patent eligible. (Tr. at 47-48 (Plaintiffs' counsel arguing that the "access block" and "media block" referenced in claim 1 "do[] more" than simply enable the functions referenced in paragraph (a) and (b) of the claim, and "are structure"); *id.* at 48-50 (referring to these terms as "a combination of hardware and software")) Neither party has briefed or addressed in detail their proposed claim constructions for these terms, nor the legal or factual support for those constructions. Absent such argument, the Court is not in a position to make a determination as to what constitutes an "access block" or "media block."

It strikes the Court as plausible that Plaintiffs could put forward reasonable constructions for those terms that would render the claim patent eligible—*i.e.*, constructions of "access block" or "media block" that would result in claim 1 representing "significantly more than a patent upon the ineligible concept itself." *Alice*, 134 S. Ct. at 2355 (internal quotation marks, citation and brackets omitted); *see, e.g., California Inst. of Tech.*, 2014 WL 5661290, at *17-20 (concluding, after claim construction, that various "unconventional" claim elements constitute inventive concepts that "sufficiently limit preemption concerns" with regard to the second step of the *Alice* test); *cf. Fort Props., Inc. v. Am. Master Lease LLC*, 671 F.3d 1317, 1323-24 (Fed. Cir. 2012) (finding that a computer limitation in certain claims at issue did not play a significant part in permitting the claimed method to be performed, for purposes of a Section 101 analysis, where "[a]t the claim construction stage" it was agreed that the term "using a computer" amounted to little more than a "broad and general limitation" that did not impose meaningful limits on claim scope) (internal quotation marks and citation omitted) (emphasis added); *McRO, Inc. v. Atlas U.S.A.*, No. SACV 13-1870-GW(FFMx), 2014 WL 4772196, at *9 (C.D. Cal. Sept. 22, 2014)

(suggesting that “[a]n abstract idea is the extreme case of functional language.”). The Court, however, could not make a determination on this point with certainty until the terms are construed.

For these reasons, the Court recommends denial of the Motion without prejudice as to claim 1.

IV. CONCLUSION

For the foregoing reasons, the Court concludes that claim 12 of the '475 patent is not eligible for patent protection under 35 U.S.C. § 101, and therefore recommends that Defendant's Motion to Dismiss be GRANTED as to that claim. The Court recommends that Defendant's Motion to Dismiss be DENIED without prejudice as to the remaining claims of the '475 patent.

This Report and Recommendation is filed pursuant to 28 U.S.C. § 636(b)(1)(B), Fed. R. Civ. P. 72(b)(1), and D. Del. LR 72.1. The parties may serve and file specific written objections within fourteen (14) days after being served with a copy of this Report and Recommendation. Fed. R. Civ. P. 72(b). The failure of a party to object to legal conclusions may result in the loss of the right to de novo review in the district court. *See Henderson v. Carlson*, 812 F.2d 874, 878-79 (3d Cir. 1987); *Sincavage v. Barnhart*, 171 F. App'x 924, 925 n.1 (3d Cir. 2006).

The parties are directed to the Court's Standing Order for Objections Filed Under Fed. R. Civ. P. 72, dated October 9, 2013, a copy of which is available on the District Court's website, located at <http://www.ded.uscourts.gov>.

Dated: April 28, 2015



Christopher J. Burke
UNITED STATES MAGISTRATE JUDGE